Consultation during the Round 3 Public Outreach Roadshow (Additional Consultation)

Example of one of the Invite Letters issued to the KZN District Municipalities for the Round 3 Authority Roadshow

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Private Bag X447 • PRETORIA • 0001 • Environment House • 473 Steve Biko Road, Arcadia, PRETORIA

Enquiries: D Fischer
Tel: 012 399 8843 **Email:** dfischer@environment.gov.za

Linda Mncube
Manager: Planning and IDP
iLembe District Municipality
P.O.Box 1788
KwaDukuza
4450

Email: Linda.Mncube@ilembe.gov.za; Zibuyile.Buthelezi@ilembe.gov.za; and Rajan.Munien@ilembe.gov.za

Dear Linda Mncube

STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) FOR A PHASED GAS PIPELINE NETWORK AND EXPANSION OF THE ELECTRICITY GRID INFRASTRUCTURE IN SOUTH AFRICA: ADDITIONAL PUBLIC INFORMATION SHARING SESSION WITH STAKEHOLDERS IN DURBAN TO PROVIDE FEEDBACK ON THE SEA AND SPECIALIST STUDIES UNDERTAKEN

As you are aware, the Department of Environmental Affairs (DEA), Department of Energy (DoE) and Department of Public Enterprises (DPE), together with iGas, Eskom and Transnet, have commissioned a Strategic Environmental Assessment (SEA) Process to identify and pre-assess suitable gas routing corridors and to expand identified Electricity Grid Infrastructure (EGI) corridors to facilitate a streamlined Environmental Assessment Process for the development of energy infrastructure related to gas and electricity, while ensuring the highest level of environmental protection. It is proposed that the final corridors be embedded and integrated into Provincial and Local planning mechanisms to secure long term energy planning.

The Council for Scientific and Industrial Research (CSIR) was appointed in April 2017 to undertake the abovementioned SEA Process, in collaboration with the South African National Biodiversity Institute (SANBI).

As part of the SEA, the project team is assessing the suitability and sensitivity of the proposed corridors for the Phased Gas Pipeline Network and EGI from an environmental, social and economic perspective. In order to do this successfully, the SEA Project Team requires a detailed understanding of constraints and opportunities within the initial corridors to inform routing options. Consultation with government and other stakeholders is an essential input into this process.

Two rounds of Authority Meetings and Public Information Sharing Sessions were undertaken as part of the SEA in November 2017 and October 2018 at various key locations throughout the country. The DEA is arranging an additional Public Information Sharing Session in Durban in order to allow stakeholders to discuss the project, raise queries and receive responses as best as possible, and to be updated on the progress made and the findings of the specialist assessments. By way of an update, kindly note that the Specialist Assessment chapters, and Parts 1 and 2 of the SEA Report, which provide an introduction and description of the SEA Project, were released for comment from 25 April 2019 to 10 June 2019. Please visit the project website to download the information, using the links provided below:

2030 NDP

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STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) FOR A PHASED GAS PIPELINE NETWORK AND EXPANSION OF THE ELECTRICITY GRID INFRASTRUCTURE IN SOUTH AFRICA: ADDITIONAL PUBLIC INFORMATION SHARING SESSION WITH STAKEHOLDERS IN DURBAN TO PROVIDE FEEDBACK ON THE SEA AND SPECIALIST STUDIES UNDERTAKEN

- Gas Pipeline SEA: https://gasnetwork.csir.co.za/resources/gas-pipeline-sea-draft-sea-report/
- EGI Expansion SEA: https://gasnetwork.csir.co.za/resources/egi-expansion-sea-draft-sea-report/

This correspondence serves as an invitation to you and relevant senior officials from the District Municipality to attend the Public Information Sharing Session in Durban. It is also kindly requested that your office assist the DEA, at your earliest convenience, with extending this invitation to relevant senior officials that fall within the affected Local Municipalities within your District. We have attached a generic Local Municipality invitation letter for your convenience. It is further requested that the SEA Project Team be copied (on *gasnetwork@csir.co.za*) on all invite correspondence sent to the affected Local Municipalities.

The Public Information Sharing Session details are indicated below:

Date:	**Thursday, 13 June 2019**
Time:	**17:00 to 20:00**
Venue:	**CSIR: 359 King George V (5th) Avenue, Durban, 4013**

Mr. Simon Moganetsi, Director: Systems and Tools (DEA) is the relevant official to liaise with regarding this request. His contact details are listed below.
Tel: +27 12 399 9309
Fax: +27 12 399 9260
E-mail: smoganetsi@environment.gov.za
Postal Address: Private Bag X447, Pretoria, 0001

Kindly confirm attendance and submit the details of the attendee(s) to the CSIR Project Team using the contact details provided below, by **04 June 2019**:
Ms. Rohaida Abed
Project Manager
Council for Scientific and Industrial Research (CSIR)
PO Box 17001, Congella, Durban, 4013
Email: gasnetwork@csir.co.za
Tel: +27 31 242 2300

Should you require additional information, you are welcome to consult with the CSIR Project Team using the contact details provided above.

The DEA is looking forward to working with you on this very important project.

Yours Sincerely,

MR ISHAAM ABADER
DEPUTY DIRECTOR GENERAL: LEGAL AUTHORISATION, COMPLIANCE AND ENFORCEMENT
DEPARTMENT OF ENVIRONMENTAL AFFAIRS
DATE: 20/05/2019

Example of the Generic Invite Letter issued to the KZN District Municipalities for their Distribution for the Round 3 Authority Roadshow

Private Bag X447 • PRETORIA • 0001 • Environment House • 473 Steve Biko Road, Arcadia, PRETORIA

Enquiries: D Fischer
Tel: 012 399 8843 **Email:** dfischer@environment.gov.za

Dear Government Stakeholder

STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) FOR A PHASED GAS PIPELINE NETWORK AND EXPANSION OF THE ELECTRICITY GRID INFRASTRUCTURE IN SOUTH AFRICA: ADDITIONAL PUBLIC INFORMATION SHARING SESSION WITH STAKEHOLDERS IN DURBAN TO PROVIDE FEEDBACK ON THE SEA AND SPECIALIST STUDIES UNDERTAKEN

Attendance Request:

You are hereby invited by the National Department of Environmental Affairs (DEA) to attend an additional Public Information Sharing Session in Durban regarding the Strategic Environmental Assessment (SEA) for the identification of energy corridors, as well as assessment and management measures for the development of a Phased Gas Pipeline Network and Expansion of the Electricity Grid Infrastructure (EGI) for South Africa.

Background:

As you are aware, the DEA, Department of Energy (DoE) and Department of Public Enterprises (DPE), together with iGas, Eskom and Transnet, have commissioned a SEA Process to identify and pre-assess suitable gas routing corridors and to expand identified EGI corridors to facilitate a streamlined Environmental Assessment Process for the development of energy infrastructure related to gas and electricity, while ensuring the highest level of environmental protection. It is proposed that the final corridors be embedded and integrated into Provincial and Local planning mechanisms to secure long term energy planning.

The Council for Scientific and Industrial Research (CSIR) was appointed in April 2017 to undertake the abovementioned SEA Process, in collaboration with the South African National Biodiversity Institute (SANBI).

As part of the SEA, the project team is assessing the suitability and sensitivity of the proposed corridors for the Phased Gas Pipeline Network and EGI from an environmental, social and economic perspective. In order to do this successfully, the SEA Project Team requires a detailed understanding of constraints and opportunities within the initial corridors to inform routing options. Consultation with government and other stakeholders is an essential input into this process.

The SEA consists of the following three Phases:

Inception Phase: (Completed in June 2017) during which the project team convened the Expert Reference Group and Project Steering Committee.

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STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) FOR A PHASED GAS PIPELINE NETWORK AND EXPANSION OF THE ELECTRICITY GRID INFRASTRUCTURE IN SOUTH AFRICA: ADDITIONAL PUBLIC INFORMATION SHARING SESSION WITH STAKEHOLDERS IN DURBAN TO PROVIDE FEEDBACK ON THE SEA AND SPECIALIST STUDIES UNDERTAKEN

Phase 2: Assessment of the Corridors:
Task 1: Initial Corridors (Completed in June 2017). Initial draft gas pipeline and EGI corridors were developed.
Task 2: Negative Mapping (Completed in October 2017). A draft wall to wall map was compiled for the country highlighting areas of low, medium, high and very high sensitivity in terms of environmental features and engineering constraints. The results of the draft negative mapping was also presented during the first round of the Public and Authority Outreach from 1 - 13 November 2017, in Springbok, Cape Town, George, East London, Durban and Johannesburg.
Task 3: Corridor Refinement (completed in January 2018). A Draft Pinch Point Analysis was undertaken based on the wall to wall negative mapping, and feedback received from the authorities, specialists and the public. This process entailed shifting the corridors slightly, where possible, to obtain more areas of low sensitivity within the corridors. This resulted in the completion of the draft refined corridors (Figure 1).
Task 4: Environmental Assessment: The specialist team was appointed in December 2017 to assess the draft refined corridors. The draft findings of these studies were presented during the second round of the Public and Authority Outreach from 8 – 22 October 2018, in George, Port Elizabeth, East London, Durban, Johannesburg, Upington, Springbok and Cape Town. In addition, the Specialist Assessment chapters, and Parts 1 and 2 of the SEA Report, which provide an introduction and description of the SEA Project, were released for comment from 25 April 2019 to 10 June 2019. Please visit the project website to download the information, using the links provided below:
Gas Pipeline SEA: https://gasnetwork.csir.co.za/resources/gas-pipeline-sea-draft-sea-report/
EGI Expansion SEA: https://gasnetwork.csir.co.za/resources/egi-expansion-sea-draft-sea-report/
The comments received from the public and stakeholders will then be taken into consideration, where applicable, and a final pinch point analysis will be undertaken and the final corridors determined.

Phase 3: Decision-support Outputs and Gazetting: This phase will translate the outputs from Phase 2 into environmental management measures and planning interventions for inclusion in the relevant legal environmental framework and local government planning tools, including Municipal Spatial Development Frameworks, to ensure that long term energy planning is secured. The final outputs of the SEA will be released for public comment through publication in the Government Gazette.

Figure 1 indicates the draft refined corridors that are being assessed by the specialists.

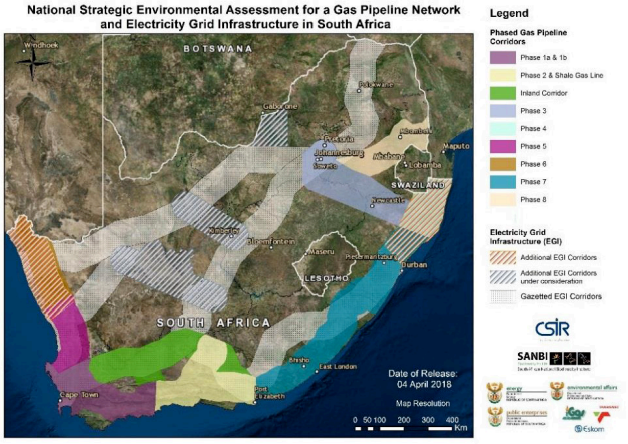


Figure 1: Refined Gas Corridors and Expanded EGI Corridors

STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) FOR A PHASED GAS PIPELINE NETWORK AND EXPANSION OF THE ELECTRICITY GRID INFRASTRUCTURE IN SOUTH AFRICA: ADDITIONAL PUBLIC INFORMATION SHARING SESSION WITH STAKEHOLDERS IN DURBAN TO PROVIDE FEEDBACK ON THE SEA AND SPECIALIST STUDIES UNDERTAKEN

Public Information Sharing Session Details:

The DEA is arranging an additional Public Information Sharing Session in Durban in order to allow stakeholders to discuss the project, raise queries and receive responses as best as possible, and to be updated on the progress made and the findings of the specialist assessments.

This correspondence serves as an invitation to you and relevant senior officials from the Local Municipality to attend the Public Information Sharing Session in Durban. Please ensure that this invitation is extended to the relevant persons at the earliest opportunity.

The Public Information Sharing Session details are indicated below:

Date:	**Thursday, 13 June 2019**
Time:	**17:00 to 20:00**
Venue:	**CSIR: 359 King George V (5th) Avenue, Durban, 4013**

Mr. Simon Moganetsi, Director: Systems and Tools (DEA) is the relevant official to liaise with regarding this request. His contact details are listed below.
Tel: +27 12 399 9309
Fax: +27 12 399 9260
E-mail: smoganetsi@environment.gov.za
Postal Address: Private Bag X447, Pretoria, 0001

Kindly confirm attendance and submit the details of the attendee(s) to the CSIR Project Team using the contact details provided below, by **04 June 2019**:
Ms. Rohaida Abed
Project Manager
Council for Scientific and Industrial Research (CSIR)
PO Box 17001, Congella, Durban, 4013
Email: gasnetwork@csir.co.za
Tel: +27 31 242 2300

Should you require additional information, you are welcome to consult with the CSIR Project Team using the contact details provided above.

The DEA is looking forward to working with you on this very important project.

Yours Sincerely

MR ISHAAM ABADER
DEPUTY DIRECTOR GENERAL: LEGAL AUTHORISATION, COMPLIANCE AND ENFORCEMENT
DEPARTMENT OF ENVIRONMENTAL AFFAIRS
DATE: 20/05/2019

Copy of the Personalised Invite Letter issued to the South Durban Community Environmental Alliance (SDCEA) for the Round 3 Authority Roadshow

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Private Bag X447, Pretoria, 0001, Environment House, 473 Steve Biko Road, Pretoria, 0002 Tel: +27 12 399 9000, Fax: +27 86 625 1042

Enquiries: D Fischer
Tel: 012 399 8843 **Email:** dfischer@environment.gov.za

Mr Desmond D'Sa
SDCEA Coordinator
South Durban Community Environmental Alliance
18 Major Calvert Street
Austerville
Durban
KwaZulu-Natal
4052

Tel: 031 461 1991
Email: desmond@sdceango.co.za

Dear Mr. D'Sa

STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) FOR A PHASED GAS PIPELINE NETWORK AND EXPANSION OF THE ELECTRICITY GRID INFRASTRUCTURE IN SOUTH AFRICA: RE-SCHEDULED PUBLIC INFORMATION SHARING SESSION WITH STAKEHOLDERS IN DURBAN TO PROVIDE FEEDBACK ON THE SEA AND SPECIALIST STUDIES UNDERTAKEN

Background:

As you are aware, the Department of Environmental Affairs (DEA), Department of Energy (DoE) and Department of Public Enterprises (DPE), together with iGas, Eskom and Transnet, have commissioned a Strategic Environmental Assessment (SEA) Process to identify and pre-assess suitable gas routing corridors and to expand identified Electricity Grid Infrastructure (EGI) corridors to facilitate a streamlined Environmental Assessment Process for the development of energy infrastructure related to gas and electricity, while ensuring the highest level of environmental protection. It is proposed that the final corridors be embedded and integrated into Provincial and Local planning mechanisms to secure long term energy planning.

The Council for Scientific and Industrial Research (CSIR) was appointed in April 2017 to undertake the abovementioned SEA Process, in collaboration with the South African National Biodiversity Institute (SANBI).

As part of the SEA, the project team is assessing the suitability and sensitivity of the proposed corridors for the Phased Gas Pipeline Network and EGI from an environmental, social and economic perspective. In order to do this successfully, the SEA Project Team requires a detailed understanding of constraints and opportunities within the initial corridors to inform routing options. Consultation with government and other stakeholders is an essential input into this process.

2030 NDP

***Batho pele*- putting people first**

STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) FOR A PHASED GAS PIPELINE NETWORK AND EXPANSION OF THE ELECTRICITY GRID INFRASTRUCTURE IN SOUTH AFRICA: RE-SCHEDULED PUBLIC INFORMATION SHARING SESSION WITH STAKEHOLDERS IN DURBAN TO PROVIDE FEEDBACK ON THE SEA AND SPECIALIST STUDIES UNDERTAKEN

The Durban public information sharing session took place on 11 October 2018 at the CSIR Offices in Glenwood. At the outset of the session, the following key concerns were raised by yourself on behalf of the South Durban Community Environmental Alliance (SDCEA):

- The CSIR should not play the role of both a consultant and referee. An independent facilitator should be appointed to ensure that the needs, concerns and values of stakeholders are fairly and carefully considered and addressed.
- The session was not advertised in local newspapers.
- Absence of an isiZulu speaking person at the session, as part of the project team.

Overall, it was requested that an additional information sharing session be organized in Durban and that the agenda of the session be discussed with a group of stakeholders identified during the session on 11 October 2018, prior to the next session.

The DEA recognises the concerns raised by yourself on behalf of the stakeholders during the public information sharing session held on 11 October 2018, and are therefore arranging a second information sharing session in Durban in order to allow stakeholders to discuss the project, raise queries and receive responses as best as possible, and to be updated on the progress made and the findings of the specialist assessments.

In line with the request from the stakeholders, the following has been put in place:

- An independent facilitator will be available at the public information sharing session as requested to facilitate the proceedings. The contracting of the facilitator is currently being finalized. Once the contracting is concluded, the details and CV of the independent facilitator will be communicated to you.
- A proposed agenda is attached for any inputs or amendments as required (Appendix A). It will also be possible to change the agenda on the evening of the public information sharing session.
- The public information sharing session will be advertised in the Isolezwe; Springfield Weekly Gazette; Southern Star; Tongaat, Verulam and Phoenix Sun; Highway Mail; and Eyethu Umlazi newspapers, approximately three weeks before the session. E-mail communication regarding the public information sharing session will be sent to all attendees that attended the 11 October 2018 session, which will include the agenda for input (based on the attendance register included in Appendix B).
- We are also requesting that the SDCEA forward an invitation to the session to relevant parties and any other stakeholders on their database.
- A person versed in isiZulu will be available throughout the public information sharing session, as was the case in the session of 11 October 2018.

The details of the public information sharing session are as follows:

- **THURSDAY, 13 JUNE 2019**
- **TIME: 17H00 UNTIL 20H00**
- **VENUE: CSIR, 359 KING GEORGE V (5TH) AVENUE, DURBAN, 4013**

The Specialist Assessment chapters, and Parts 1 and 2 of the SEA Report, which provide an introduction and description of the SEA Project, were released for comment from 25 April 2019 to 10 June 2019. Please visit the project website to download the information.

STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) FOR A PHASED GAS PIPELINE NETWORK AND EXPANSION OF THE ELECTRICITY GRID INFRASTRUCTURE IN SOUTH AFRICA: RE-SCHEDULED PUBLIC INFORMATION SHARING SESSION WITH STAKEHOLDERS IN DURBAN TO PROVIDE FEEDBACK ON THE SEA AND SPECIALIST STUDIES UNDERTAKEN

- **Gas Pipeline SEA**: https://gasnetwork.csir.co.za/resources/gas-pipeline-sea-draft-sea-report/
- **EGI Expansion SEA**: https://gasnetwork.csir.co.za/resources/egi-expansion-sea-draft-sea-report/

Should you require additional information, you are welcome to consult with the DEA and the CSIR Project Team. The relevant contact details are provided below:

DEA TEAM	
Dee Fischer Chief Director IEMS Tel: +27 12 399 8843 Fax: +27 12 399 9260 E-mail: dfischer@environment.gov.za	Simon Moganetsi Director: Systems and Tools Tel: +27 12 399 9309 Fax: +27 12 399 9260 E-mail: smoganetsi@environment.gov.za
CSIR TEAM	
Annick Walsdorff SEA Project Leader Tel: +27 21 888 2589 Fax: +27 21 888 2693 Email: AWalsdorff@csir.co.za	Rohaida Abed SEA Project Manager Tel: +27 31 242 2318 Fax: +27 31 261 8172 Email: RAbed@csir.co.za

We trust that these arrangements deal with many of the issues that were raised. We look forward to further engagement on this process with your organization.

Yours sincerely

MR ISHAAM ABADER
DEPUTY DIRECTOR GENERAL: LEGAL AUTHORISATION, COMPLIANCE AND ENFORCEMENT
DEPARTMENT OF ENVIRONMENTAL AFFAIRS
DATE: 20/05/2019

STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) FOR A PHASED GAS PIPELINE NETWORK AND EXPANSION OF THE ELECTRICITY GRID INFRASTRUCTURE IN SOUTH AFRICA: RE-SCHEDULED PUBLIC INFORMATION SHARING SESSION WITH STAKEHOLDERS IN DURBAN TO PROVIDE FEEDBACK ON THE SEA AND SPECIALIST STUDIES UNDERTAKEN

Appendix A – Proposed Agenda of the Public Information Sharing Session

PROPOSED AGENDA

PUBLIC INFORMATION SHARING SESSION

STRATEGIC ENVIRONMENTAL ASSESSMENT FOR THE IDENTIFICATION OF ENERGY CORRIDORS AS WELL AS ASSESSMENT AND MANAGEMENT MEASURES FOR THE DEVELOPMENT OF A GAS PIPELINE NETWORK AND EXPANSION OF ELECTRICITY GRID INFRASTRUCTURE (EGI) FOR SOUTH AFRICA

Proceedings will be as follows:

TIME	ACTIVITY/PRESENTATION	PRESENTER
17:00 – 17:10	Welcome and Introductions	DEA
17:10 – 17.20	Background on the Phased Gas Pipeline Network Corridors	CSIR
17:20 – 17.40	Pinch Point Analysis	SANBI
17:40 – 18:40	Biodiversity Assessment (Terrestrial and Aquatic Ecology)	SANBI
18:40 – 19:00	Discussion	All
19:00 – 19:30	Social, Planning and Disaster Management Assessment, Seismicity Assessment and Visual Impact Assessment	CSIR
19:30 – 19:50	Discussion	All
19:50 – 20:00	Way Forward and Closing	DEA

STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) FOR A PHASED GAS PIPELINE NETWORK AND EXPANSION OF THE ELECTRICITY GRID INFRASTRUCTURE IN SOUTH AFRICA: RE-SCHEDULED PUBLIC INFORMATION SHARING SESSION WITH STAKEHOLDERS IN DURBAN TO PROVIDE FEEDBACK ON THE SEA AND SPECIALIST STUDIES UNDERTAKEN

Appendix B – Attendance Register of the 11 October 2018 Durban Information Sharing Session

CSIR

SANBI
South African National Biodiversity Institute

environmental affairs · energy · public enterprises · Eskom · TRANSNET

SEA for Gas Pipeline Network and Expansion of EGI for South Africa
Durban, CSIR Durban
11th October 2018
Attendance Register

Please sign in and confirm your contact details below.

Organisation	Name	Email	Telephone	Signature
DEA	Sujata Carlyle			
iGas	Neville Ebrahim			
Pvt TIEA	Sarah Allan			
OCEANS NOT OIL	JANET SOLOMON			
WILDOCEANS	KHALID MATHEE			
SDCEA	Snerele Odayer			
Earthlife	Alice Thompson			
Private	Dina van Niekerk			
Private	DENESE KOCH			
"	ARNIA VAN VUUREN			

Organisation	Name	Email	Telephone	Signature
PRIVATE	JOHN IRVINE			
Pvt	Gill Palmer			
WESSA KZN / COASTWATCH / URBAN ECO	PADDY NORMAN			
NEWLYN INV	SASIE CHETTY			
Sdcea	Slungile Makhanya			
Earthlife Africa	Ulrich Steenkamp			
KZN Fishing Forum SDCEA	Mackey			
ERS	Bulelwa			
Sdcea	Sbu Mabhoyi			
SDCEA	DESMOND D'SA			
HOOSEN BOBAT.	HOOSEN BOBAT.			
GM Rademeyer	GM Rademeyer			
iGAS	MADITSI KOKETSO			
HGDM	Muzi Lutuli			
EAS Environmental Rural Solutions	LENTSOE TSEHLOANE			
Harry Gwala District Municipality	Lucky Zondi			

STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) FOR A PHASED GAS PIPELINE NETWORK AND EXPANSION OF THE ELECTRICITY GRID INFRASTRUCTURE IN SOUTH AFRICA: RE-SCHEDULED PUBLIC INFORMATION SHARING SESSION WITH STAKEHOLDERS IN DURBAN TO PROVIDE FEEDBACK ON THE SEA AND SPECIALIST STUDIES UNDERTAKEN

Organisation	Name	Email	Telephone	Signature
TRIPLOW SUSTAINABLE SOLUTIONS	ZAYD HASSEN			
NERSA	Lefatshi Melato			
NERSA	Vusimuzi Zwane			
~~NAC~~ BELLAMONT ENERGY	MOSES TEMBE			
CSIR	A. Walsdorff			
CSIR	B. Maseli			
CSIR	R. Abed			
SANBI	F. Daniels			
SANBI	T Matebu			
(ME)	A. EDSON			
Private	Sue George			
Unknown	Nora Choveaux			
Unknown	Samson Mokoena			

Example of one of the Cover Letters issued to the KZN Libraries for the Placement of Project Documents

CSIR Environmental Management Services
PO Box 17001, Congella, Durban, 4013
Tel: +27 31 242 2300
Fax: +27 31 261 8172
Email: gasnetwork@csir.co.za

5 July 2019

Aquadene Public Library
4 Via Ammannia
Aquadene
Richards Bay
3900

Tel: 035 907 5579

Attention: Librarian
(Submitted by courier to the above recipient)

RE: STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) FOR THE PHASED GAS PIPELINE NETWORK AND ELECTRICITY GRID INFRASTRUCTURE (EGI) EXPANSION FOR SOUTH AFRICA: DISTRIBUTION OF BACKGROUND INFORMATION DOCUMENT AND PRESENTATION DELIVERED AT THE PUBLIC INFORMATION SHARING SESSIONS FOR PLACEMENT IN THE LIBRARY

In order to support the National Development Plan (NDP) and Operation Phakisa, the Department of Environmental Affairs (DEA), in partnership with the Department of Energy (DoE) and Department of Public Enterprises (DPE), as well as iGas, Eskom and Transnet, have commissioned a Strategic Environmental Assessment (SEA) Process to identify and pre-assess suitable gas routing corridors and to expand identified Electricity Grid Infrastructure (EGI) corridors to facilitate a streamlined Environmental Assessment (EA) Process for the development of energy infrastructure related to gas and electricity. The Council for Scientific and Industrial Research (CSIR) was appointed in April 2017 to undertake the abovementioned SEA Process, in collaboration with the South African National Biodiversity Institute (SANBI). The SEA Process was initiated in April 2017 in line with the aforementioned objective.

As part of the SEA, the project team is assessing the suitability and sensitivity of the proposed corridors for the Phased Gas Pipeline Network and EGI from an environmental, social and economic perspective. In order to do this successfully, the SEA Project Team requires a detailed understanding of constraints and opportunities within the corridors to inform routing options. Consultation with government and other stakeholders is an essential input into this process.

The SEA consists of the three phases, i.e. Inception Phase, Phase 2 (Assessment of the Corridors) and Phase 3 (Decision-support Outputs and Gazetting). The Inception Phase was completed in June 2017. The SEA is currently nearing completion of Phase 2. In particular, the specialist team was appointed in December 2017 to assess the draft refined corridors. In addition, the Specialist Assessment chapters, and Parts 1 and 2 of the SEA Report, which provide an introduction and description of the SEA Project, were released to stakeholders for comment from 25 April 2019 to 24 June 2019. The comment period has also been extended by a further 30 days and will end on **7 August 2019**. The reports are available for download at the links provided below:

- Gas Pipeline SEA: https://gasnetwork.csir.co.za/resources/gas-pipeline-sea-draft-sea-report/
- EGI Expansion SEA: https://gasnetwork.csir.co.za/resources/egi-expansion-sea-draft-sea-report/

The comments received from the public and stakeholders will then be taken into consideration, where applicable, and a final pinch point analysis will be undertaken and the final corridors determined.

Two rounds of Authority Meetings and Public Information Sharing Sessions were undertaken as part of the SEA in November 2017 and October 2018 at various key locations throughout the country. An additional Public Information Sharing Session was also held on 13 June 2019 in Durban in order to allow stakeholders to discuss the project, raise queries and receive responses, and to be updated on the progress made and the findings of the specialist assessments. During this meeting, it was requested that copies of the Background Information Document and presentation delivered at the additional Public Information Sharing Session be placed in selected and recommended libraries within KwaZulu-Natal.

Request from the SEA Project Team:

Linked to the above, kindly find attached the following:

- Three copies of the Background Information Document in English;
- Three copies of the Background Information Document in isiZulu;
- Three copies of the Presentation delivered at the 13 June 2019 Public Information Sharing Session in English; and
- Three copies of the Presentation delivered at the 13 June 2019 Public Information Sharing Session in isiZulu.

It is therefore requested that you kindly keep the above documents in the Public Library for Interested and Affected Parties to refer to for additional information related to the project. Please ensure that these documents are not removed from the library.

Kindly note that additional project background information can be found on the following project website: https://gasnetwork.csir.co.za/

Should you have any queries or require additional information please do not hesitate to contact the undersigned using the contact details provided below.

- Address: PO Box 17001, Congella, Durban, 4013
- Email: gasnetwork@csir.co.za
- Tel: +27 31 242 2300
- Fax: +27 31 261 8172

Thank you for your input throughout this SEA Process.

Sincerely,

Annick Walsdorff
Project Leader
CSIR Environmental Management Services

Rohaida Abed
Project Manager
CSIR Environmental Management Services

CORRESPONDENCE SENT TO PROVINCES, MUNICIPALITIES AND INDUSTRY FOR THE FEEDBACK EXERCISES

Stage 2 Consultation (Draft Refined Corridors, Provincial, Municipal and Industry Feedback Exercise, and Draft Specialist Assessment and SEA Chapters)

Provincial and Municipal Feedback Exercise

Example of one of Letters and Grid Maps sent to the Provincial Planning Departments for the Provincial and Municipal Feedback Exercise

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Private Bag X447 • PRETORIA • 0001 • Environment House • 473 Steve Biko Road, Arcadia, PRETORIA

DEA Reference: EDMS 161 704 (Gas and EGI extension SEA)
Enquiries: Mr. Simon Moganetsi
Tel: 012 399 9309 **Fax**: 012 399 3620 **Email**: SMoganetsi@environment.gov.za

ATTENTION: FRIKKIE BROOKS
MANDISA ZUNGU
KWAZULU-NATAL PROVINCE
TELEPHONE: 082-808-8020; 033-3556486
E-MAIL: FRIKKIE.BROOKS@KZNPREMIER.GOV.ZA; MANDISA.ZUNGU@KZNCOGTA.GOV.ZA

Dear Colleagues

PROVINCIAL AND DISTRICT MUNICIPALITY CONSULTATION ON THE NATIONAL DEPARTMENT OF ENVIRONMENTAL AFFAIRS (DEA) STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) FOR THE PHASED GAS PIPELINE NETWORK AND ELECTRICITY GRID INFRASTRUCTURE (EGI) FOR SOUTH AFRICA

As part of the SEA undertaken for the proposed development of a Phase Gas Pipeline Network and EGI expansion in South Africa, the SEA project team is requesting assistance from the Province and District Municipalities that would be affected by the potential development of the proposed Phase Gas Pipeline Network (refer to Appendix A) in identifying areas designated for future energy intensive activities, such as industrial development or potential mining operations, as well as areas where major road/railway infrastructure is planned.

Number	Planning Category	Planning Category Definition
1	Industrial Development (Industrial Expansion, SEZ & IDZ)	Denotes an area that is either an existing industrial area where there is planned expansion or a new area which has been set aside for industrial development.
2	Priority Mining Area	An area set aside for either existing or future mining activity.
3	Transport	Major road/railway infrastructure

Maps of the proposed corridors (broken down into 20km by 20km grid cells) were developed for each District Municipality. The SEA project team would like feedback on which areas (grid cells) on the map would best reflect the departmental/municipal future plans and current thinking in terms of future energy intensive activities, such as industrial development or potential mining operations. The outputs from this exercise will be 20km by 20km planning category maps for each Municipality. These maps will be best informed by departments and municipality officials responsible for issues concerning the following:

- Industrial development;
- Mining;
- Economic development; and
- Transport.

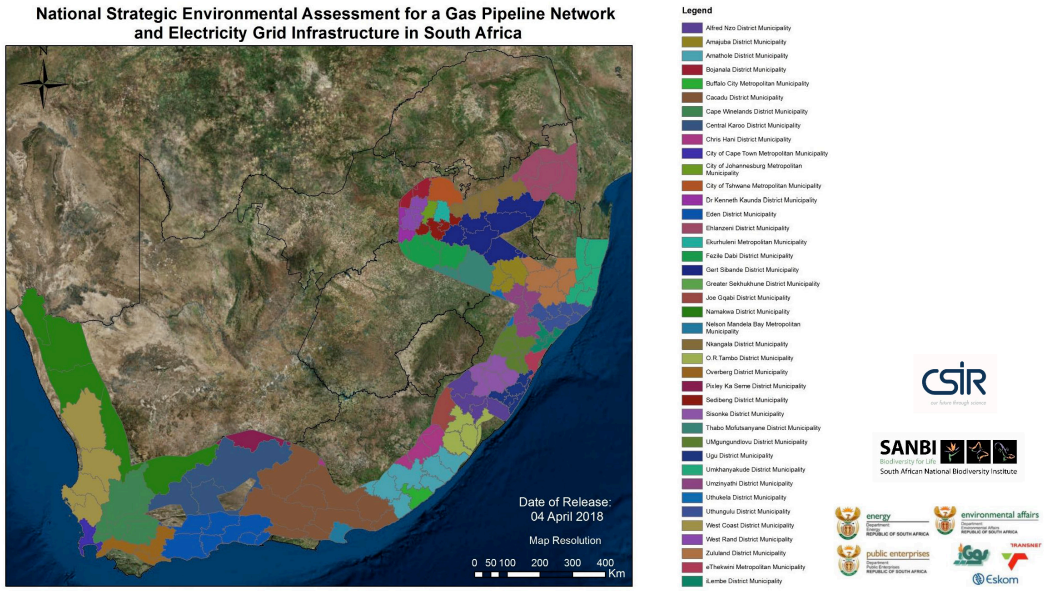
We kindly request Provincial sector departments and District Municipality representatives responsible for the above areas to populate the map looking at the categories in the table above. You are very welcome to write/draw the focused areas on the map and scan the map output to send to us. Your feedback would be highly appreciated by **28 May 2018**.

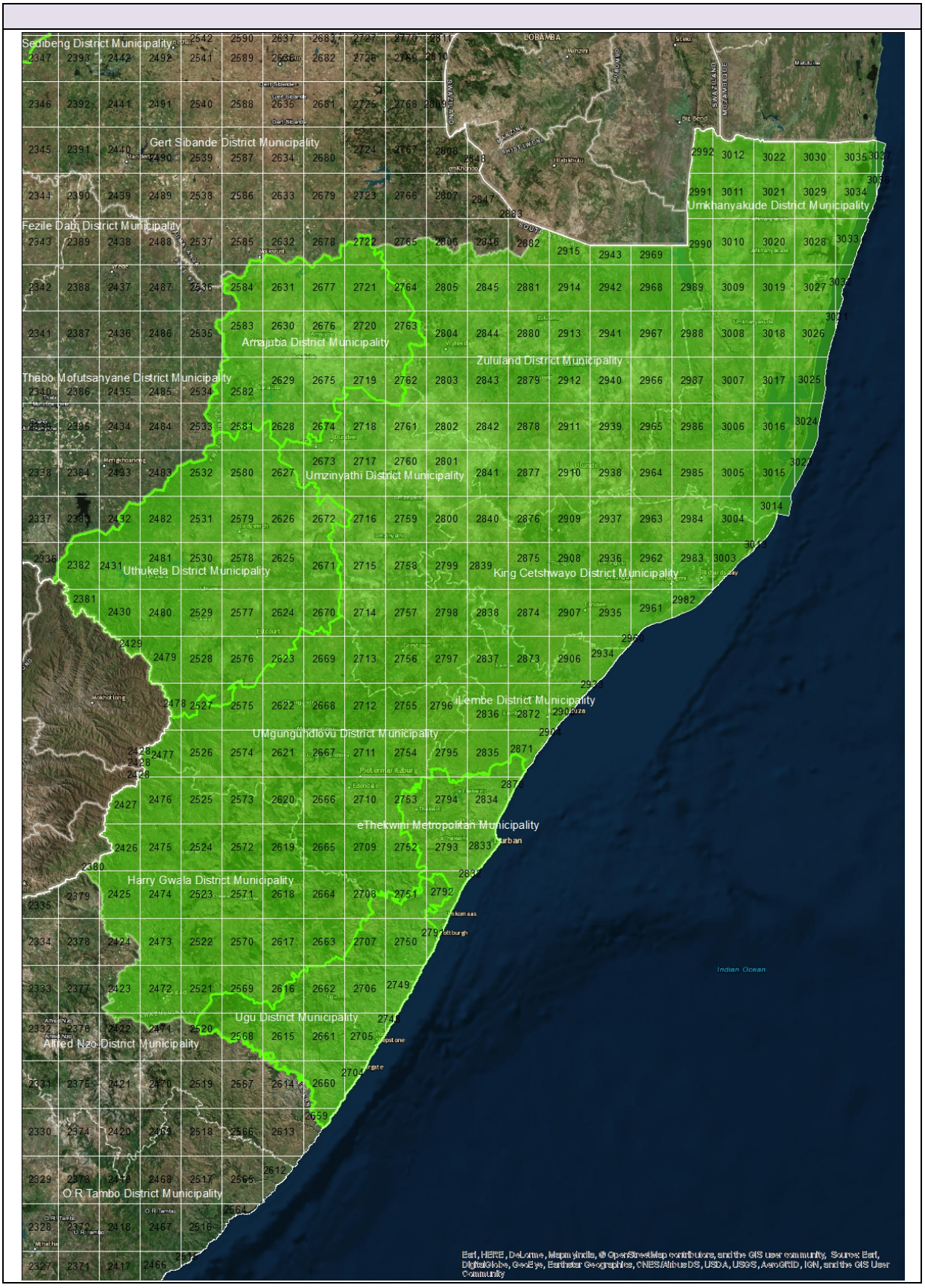
We look forward to your feedback to ensure that the future energy corridors best caters for the future development plans of the Province.

Mrs. Dee Fischer
Chief Director: Integrated Environmental Management Support
Department of Environmental Affairs
Private Bag X447
PRETORIA
0001
Date: 16 April 2018

Fax: 012 399 9260
Email: DFischer@environment.gov.za

APPENDIX A


National Strategic Environmental Assessment for a Gas Pipeline Network and Electricity Grid Infrastructure in South Africa
Date of Release:
04 April 2018
Map Resolution
0 50 100 200 300 400
Km
Legend
Alfred Nzo District Municipality
Amajuba District Municipality
Amathole District Municipality
Bojanala District Municipality
Buffalo City Metropolitan Municipality
Cacadu District Municipality
Cape Winelands District Municipality
Central Karoo District Municipality
Chris Hani District Municipality
City of Cape Town Metropolitan Municipality
City of Johannesburg Metropolitan Municipality
City of Tshwane Metropolitan Municipality
Dr Kenneth Kaunda District Municipality
Eden District Municipality
Ehlanzeni District Municipality
Ekurhuleni Metropolitan Municipality
Fezile Dabi District Municipality
Gert Sibande District Municipality
Greater Sekhukhune District Municipality
Joe Gqabi District Municipality
Namakwa District Municipality
Nelson Mandela Bay Metropolitan Municipality
Nkangala District Municipality
O.R.Tambo District Municipality
Overberg District Municipality
Pixley Ka Seme District Municipality
Sedibeng District Municipality
Sisonke District Municipality
Thabo Mofutsanyane District Municipality
UMgungundlovu District Municipality
Ugu District Municipality
Umkhanyakude District Municipality
Umzinyathi District Municipality
Uthukela District Municipality
Uthungulu District Municipality
West Coast District Municipality
West Rand District Municipality
Zululand District Municipality
eThekwini Metropolitan Municipality
iLembe District Municipality
CSIR
SANBI
Biodiversity for Life
South African National Biodiversity Institute
energy
environmental affairs
public enterprises
SANRAL
TRANSNET
Eskom


Sedibeng District Municipality
Gert Sibande District Municipality
Fezile Dabi District Municipality
Umkhanyakude District Municipality
Amajuba District Municipality
Zululand District Municipality
Thabo Mofutsanyane District Municipality
Umzinyathi District Municipality
Uthukela District Municipality
Kirig Cetshwayo District Municipality
iLembe District Municipality
UMgungundlovu District Municipality
eThekwini Metropolitan Municipality
Harry Gwala District Municipality
Ugu District Municipality
Alfred Nzo District Municipality
O.R.Tambo District Municipality
Indian Ocean
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Example of one of Letters and Grid Maps sent to the District Municipality Planning Departments for the Provincial and Municipal Feedback Exercise

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Private Bag X447 • PRETORIA • 0001 • Environment House • 473 Steve Biko Road, Arcadia, PRETORIA

DEA Reference: EDMS 161 704 (Gas and EGI extension SEA)
Enquiries: Mr. Simon Moganetsi
Tel: 012 399 9309 **Fax**: 012 399 3620 **Email**: SMoganetsi@environment.gov.za

LINDA MNCUBE
ILEMBE DISTRICT MUNICIPALITY
TELEPHONE: 032-437-9463
E-MAIL: LINDA.MNCUBE@ILEMBE.GOV.ZA

Dear Colleague

PROVINCIAL AND DISTRICT MUNICIPALITY CONSULTATION ON THE NATIONAL DEPARTMENT OF ENVIRONMENTAL AFFAIRS (DEA) STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) FOR THE PHASED GAS PIPELINE NETWORK AND ELECTRICITY GRID INFRASTRUCTURE (EGI) FOR SOUTH AFRICA

As part of the SEA undertaken for the proposed development of a Phase Gas Pipeline Network and EGI expansion in South Africa, the SEA project team is requesting assistance from the Province and District Municipalities that would be affected by the potential development of the proposed Phase Gas Pipeline Network (refer to Appendix A) in identifying areas designated for future energy intensive activities, such as industrial development or potential mining operations, as well as areas where major road/railway infrastructure is planned.

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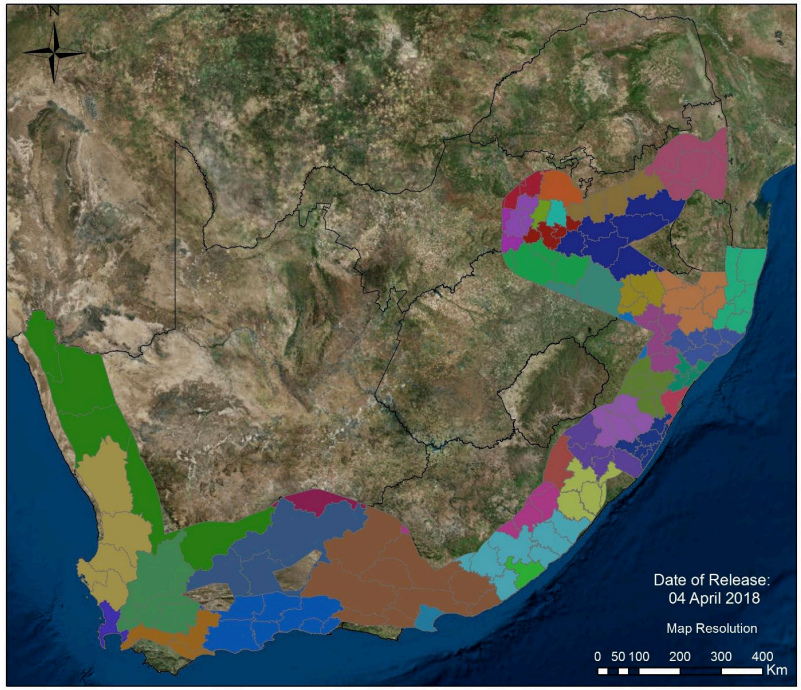
Mrs. Dee Fischer
Chief Director: Integrated Environmental Management Support
Department of Environmental Affairs
Private Bag X447
PRETORIA
0001
Date: 16 April 2018

Fax: 012 399 9260
Email: DFischer@environment.gov.za

APPENDIX A

National Strategic Environmental Assessment for a Gas Pipeline Network and Electricity Grid Infrastructure in South Africa



Legend

- Alfred Nzo District Municipality
- Amajuba District Municipality
- Amathole District Municipality
- Bojanala District Municipality
- Buffalo City Metropolitan Municipality
- Cacadu District Municipality
- Cape Winelands District Municipality
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- Uthungulu District Municipality
- West Coast District Municipality
- West Rand District Municipality
- Zululand District Municipality
- eThekwini Metropolitan Municipality
- iLembe District Municipality

CSIR
our future through science

SANBI
Biodiversity for life
South African National Biodiversity Institute

energy
Department: Energy
REPUBLIC OF SOUTH AFRICA

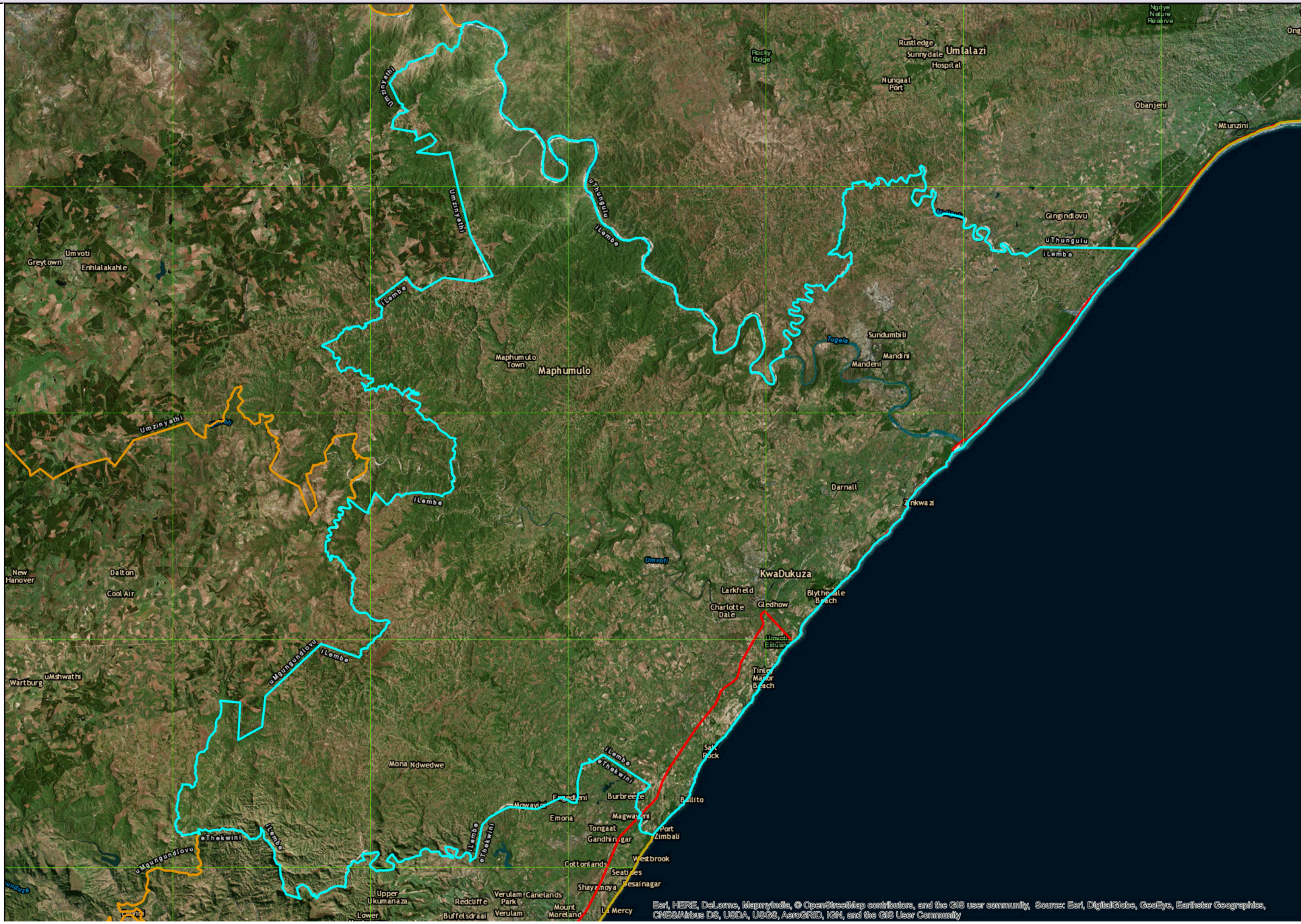
environmental affairs
Department: Environmental Affairs
REPUBLIC OF SOUTH AFRICA

public enterprises
Department: Public Enterprises
REPUBLIC OF SOUTH AFRICA

iGas

TRANSNET

Eskom


Umlalazi
Rustledge
Sunnydale
Hospital
Nunqaal Port
Obanjeni
Mtunzini
Gingindlovu
uThungulu
iLembe
Umvoti
Greytown
Enhlalakahle
Maphumulo Town
Maphumulo
Sundumbili
Mandini
Mandeni
Umzinyathi
Darnall
Zinkwazi
KwaDukuza
Larkfield
Charlotte Dale
Gledhow
Blythedale Beach
New Hanover
Dalton
Cool Air
uMshwathi
Wartburg
uMgungundlovu
Mona
Ndwedwe
eThekwini
Burbreeze
Emona
Tongaat
Gandhinagar
Magwaveni
Ballito
Port Zimbali
Westbrook
Cottonlands
Seatides
Desainagar
Shayamoya
La Mercy
Mount Moreland
Verulam
Canelands
Redcliffe
Buffelsdraai
Upper Ukumanaza
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Copy of the Feedback Form sent to the Provincial Planning Departments and District Municipality Planning Departments for the Provincial and Municipal Feedback Exercise

SANBI Biodiversity for Life
South African National Biodiversity Institute

energy Department: Energy REPUBLIC OF SOUTH AFRICA
environmental affairs Department: Environmental Affairs REPUBLIC OF SOUTH AFRICA
public enterprises Department: Public Enterprises REPUBLIC OF SOUTH AFRICA
iGas
TRANSNET
Eskom

CSIR

PHASED GAS PIPELINE NETWORK
STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA)
PROVINCIAL AND MUNICIPAL CONSULTATION

FEEDBACK FORM

PLEASE COMPLETE	
PROVINCE/MUNICIPALITY:	
NAME:	
DEPARTMENT:	
DESIGNATION:	
EMAIL:	
PHONE:	

Page **1** of **6**

FEEDBACK INSTRUCTIONS: Please provide feedback on the map by following the instructions below.

STEP 1	• Identify the relevant person(s) within your institution with knowledge on future spatial development plans for your province/municipality, concerning industry and mining related development in particular. • Request their input and participation in this exercise.
STEP 2	• Capture your municipality or departmental contact details on the front cover of each Feedback Form.
STEP 3	• Based on your knowledge of future developments plans in your province/municipality, identify what inputs you would like to be made to the map, i.e. identify areas designated for future energy intensive activities, that could motivate aligning the transmission gas pipeline in support of these areas (such as industrial development (industrial expansion, SEZ and IDZ) or (potential) mining operations). These areas can either have existing land uses where there is planned expansion or it can be a new area which has been set aside for development.
STEP 4A	• Section 1 of the Feedback Form lists the various Sectors and Activities to choose from when completing Section 2 of the form.
STEP 4B	• Based on information from Step 3, **Shade the relevant numbered grid cell on the attached map** (i.e. high priority areas at a particular location within the municipality). • Carry the number of the shaded grid cell over to Section 2 of the Feedback form. Shading can be done by hand and the updated map can be scanned. • Complete Section 2 of the Feedback Form for each grid cell you have shaded. • Please capture the cell reference number for each proposed cell. • In addition, please capture the sector and activity to which the cell relates (referring to the table in Section 1) REFER TO THE EXAMPLE GIVEN BELOW
STEP 5	• Submit completed Feedback Forms to Gasnetwork at gasnetwork@csir.co.za by **28 May 2018**. • As per STEP 3, please also submit any documents which you would like to be considered as part of the review. • Contact Rohaida Abed at 031 242 2318 if you have any questions regarding the exercise.

SECTION 1: Sector and Activity response options

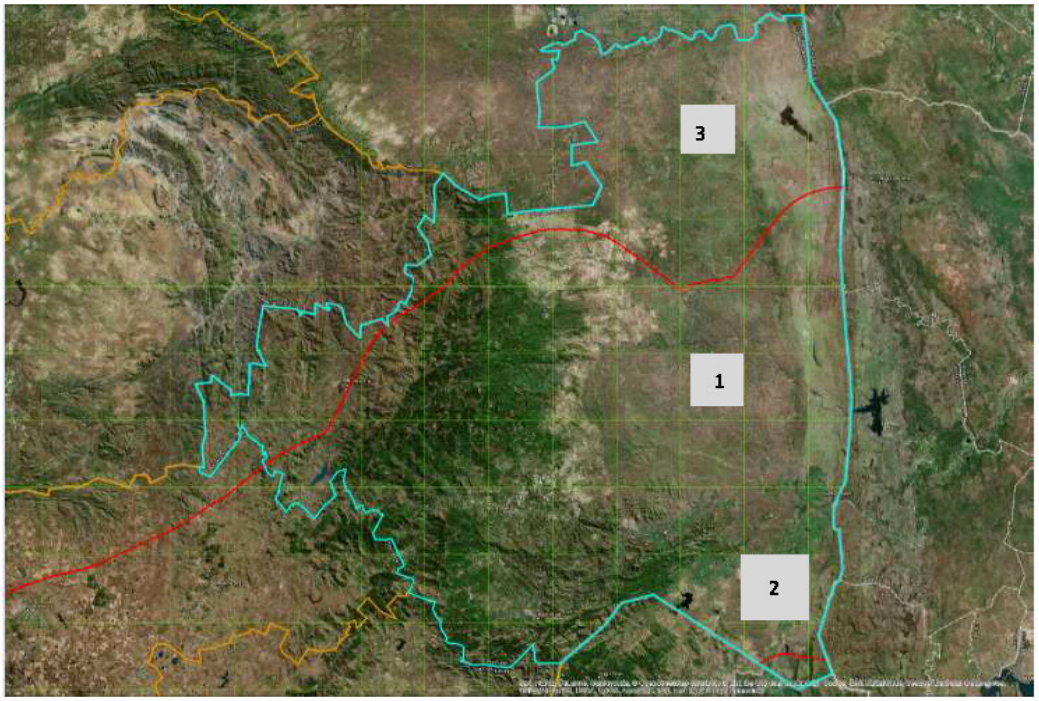
SECTOR	ACTIVITY
MINING	MINING
MANUFACTURING/INDUSTRIAL	LIGHT INDUSTRY HEAVY INDUSTRY/SMELTERS
	OTHER
TRANSPORT	MAJOR ROADS
	MAJOR RAILWAY

SECTION 2:

PLEASE PROVIDE DETAILS ON ANY KEY PROVINCIAL/DISTRICT MUNICPALITY AREAS EARMARKED FOR DEVELOPMENT THAT COULD INFLUENCE THE FINAL LOCATION OF THE CORRIDORS IN SUPPORT OF THESE AREAS.

GRID CELL REFERENCE NUMBER	SECTOR	ACTIVITY	COMMENTS

EXAMPLE



GRID CELL REFERENCE NUMBER	SECTOR	ACTIVITY	COMMENTS
1	Mining	Mining	Specify type of mining for examples and any additional information that could be relevant
2	Manufacturing/Industrial	Industrial – Heavy Industry	Future IDZ
3	Manufacturing/Industrial	Industrial – Heavy Industry/Smelter	Proposed Aluminium Smelter planned for 2022 in [add area]

Industry Feedback Exercise

Example of one of Letters sent to the Industrial Stakeholders for the Industry Feedback Exercise

CSIR Environmental Management Services
PO Box 17001, Congella, Durban, 4013
Tel: +27 31 242 2300
Fax: +27 31 261 2509
Email: gasnetwork@csir.co.za

23 May 2018

National Energy Regulator of South Africa
Kulawula House
526 Madiba (former Vermeulen) Street
Arcadia
Pretoria
0007

Attention: Letsatsi Melato (Letsatsi.Melato@nersa.org.za)
Dumisani Mthiyane (Dumisani.Mthiyane@nersa.org.za)
Vusimuzi Zwane (Vusimuzi.Zwane@nersa.org.za)
Kgopotjo Mojanaga (Kgopotjo.Mojanaga@nersa.org.za)
Fhumulani Nenzhelele (Fhumulani.Nenzhelele@nersa.org.za)

Dear Colleagues

RE: CONSULTATION WITH SECTOR SPECIFIC STAKEHOLDERS ON THE NATIONAL DEPARTMENT OF ENVIRONMENTAL AFFAIRS (DEA) STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) FOR THE PHASED GAS PIPELINE NETWORK AND ELECTRICITY GRID INFRASTRUCTURE (EGI) EXPANSION FOR SOUTH AFRICA

The National Development Plan (NDP) designed a broad set of programmes and interventions to promote growth and development, while reducing poverty and inequality. Infrastructure investment is a key priority in the NDP. As such, eighteen (18) large scale infrastructure projects (SIPs) have been initiated to unlock strategic development potential from project-level, municipal infrastructure to national scale projects. In response to SIP 10 (Electricity Transmission and Distribution for all), Eskom completed a Strategic Grid Plan Study which identified priority corridors where transmission infrastructure expansion is required in order to balance South Africa's energy generation and load requirements up to 2040. These corridors were assessed as part of another Strategic Environmental Assessment (SEA) in 2016 (Electricity Grid Infrastructure (EGI) SEA 2016) and have been gazetted in 2017 (refer to Figure 1). Eskom identified the need for additional EGI Power Corridors to be assessed.

In addition, the President also launched Operation Phakisa in July 2014 to fast track the implementation of government priority programmes to meet the targets set out in the NDP. The phased development of an onshore transmission gas pipeline network forms part of the infrastructure envisaged as an enabler for the offshore oil and gas exploration and has the potential to unlock further possibilities for the growth of the gas industry in South Africa (Operation Phakisa, 2014).

In order to support the programmes above, the Department of Environmental Affairs (DEA), in partnership with the Department of Energy (DoE) and Department of Public Enterprises (DPE) representing iGas, Eskom and Transnet, have commissioned a SEA Process to identify and pre-assess suitable gas routing corridors and to expand identified electricity power corridors to facilitate a streamlined Environmental Assessment (EA) Process for the development of energy infrastructure related to gas and electricity. The Council for Scientific and Industrial Research (CSIR) was appointed in April 2017 to undertake the abovementioned SEA

Process, in collaboration with the South African National Biodiversity Institute (SANBI). The SEA Process was initiated in April 2017 in line with the aforementioned objective.

This SEA therefore focusses on nine gas corridors identified as part of Operation Phakisa as key areas where gas transmission pipelines are required in order to meet future energy requirements, as well as two additional corridors to expand the gazetted EGI corridors (Figure 1 – EGI Expansion_Amendment 1). Recently, Eskom has also identified an additional three EGI corridors to be assessed (Figure 1 – EGI Expansion_Amendment 2). These are in the process of being approved for inclusion in the SEA. The SEA will assess the environmental, social and economic constraints and opportunities for gas pipeline and EGI development within these corridors. The results of the assessment will serve to inform suitable routing options for gas pipelines and EGI expansion within the corridors.

As part of the SEA, the project team has undertaken a detailed review of available strategic planning documentation for the affected municipalities falling within the Gas and EGI corridors. The review focused on analysing available Integrated Development Plans (IDPs) and Spatial Development Frameworks (SDFs) for each affected municipality to identify areas designated for future energy intensive activities, such as industrial development (industrial expansion, IDZ, SEZ) or potential mining operations which could be represented spatially. The project team would like to now supplement the above information with **inputs from Industry**.

The project team is requesting assistance from major energy users and generators on the configuration of the corridors, in terms of:

- Future **energy demand** (**electricity or gas**) to support development plans of major electricity/gas users in South Africa up to 2040 (i.e. future/planned energy intensive activities); and/or
- Transmission infrastructure requirements to support **future generation plans of electricity** in South Africa up to 2040 (e.g. Renewable projects and Gas to power plants).

Where suitable motivation is provided, the positioning of the corridors will be refined to overlap with areas of aggregated common development interest amongst generators and to accommodate these plans. The outcome of the Gas and EGI Expansion SEA process, if gazetted by government, will mean that bulk generators and bulk users of electricity/Gas will benefit from the accelerated authorisation of transmission level infrastructure in the gazetted corridors.

Please refer to the attached feedback forms for instructions on the way forward.

This feedback exercise will be sent to the following organisations:

Business Unity South Africa	Eskom
Chamber of Mines	Transnet
Energy Intensive User Group of Southern Africa	iGas
National Business Initiative	Council for Mineral Technology
Business Leadership South Africa	Industrial Development Corporation
South African Chamber of Commerce and Industry	PetroSA
SAPVIA	National Development Agency
SAWEA	NERSA
SASTELA	Coega IDZ
SAOGA	Richards Bay IDZ
Saldanha Bay IDZ	Alexkor

Please feel free to send us contact details of additional organisations you believe would have valuable inputs in this process.

The SEA Project Team acknowledges that generators/users may in some instances have some concerns regarding the disclosure of spatial information in this regard. As such, the SEA Project Team agrees to the following data management protocol in terms of managing and or publishing data gathered from generators/users as part of this SEA exercise for the Gas and EGI expansion corridors:

- The SEA Project Team agrees to treat the individual data received as part of this exercise as private, non-public and confidential information. In this instance individual submission data will not be disclosed to any third party or CSIR staff who is not part of the Gas and EGI Expansion SEA Project Team.
- The data received as part of this exercise will be used solely for the specific research purpose described hereinabove and not for any other purpose.
- The SEA Project Team further agrees that any and all reports or analysis of the data prepared as part of this project and made public shall contain only aggregate data.
- The SEA Project Team further agrees that at no time will any names of organisations or other identifying information relating to members contributing to this exercise be published.

The Project Team would like to thank you in advance for your submissions and ultimately your assistance in informing the strategic positioning of South Africa's future electricity transmission grid and gas transmission network. Your feedback would be highly appreciated by **15 June 2018**.

Kindly note that additional project background information can be found on the following project website: https://gasnetwork.csir.co.za/

Should you have any queries or require additional information please do not hesitate to contact the undersigned using the contact details provided above. We look forward to collaborating with you on this SEA Process.

Sincerely,

Annick Walsdorff
Project Leader
CSIR Environmental Management Services

Rohaida Abed
Project Manager
CSIR Environmental Management Services

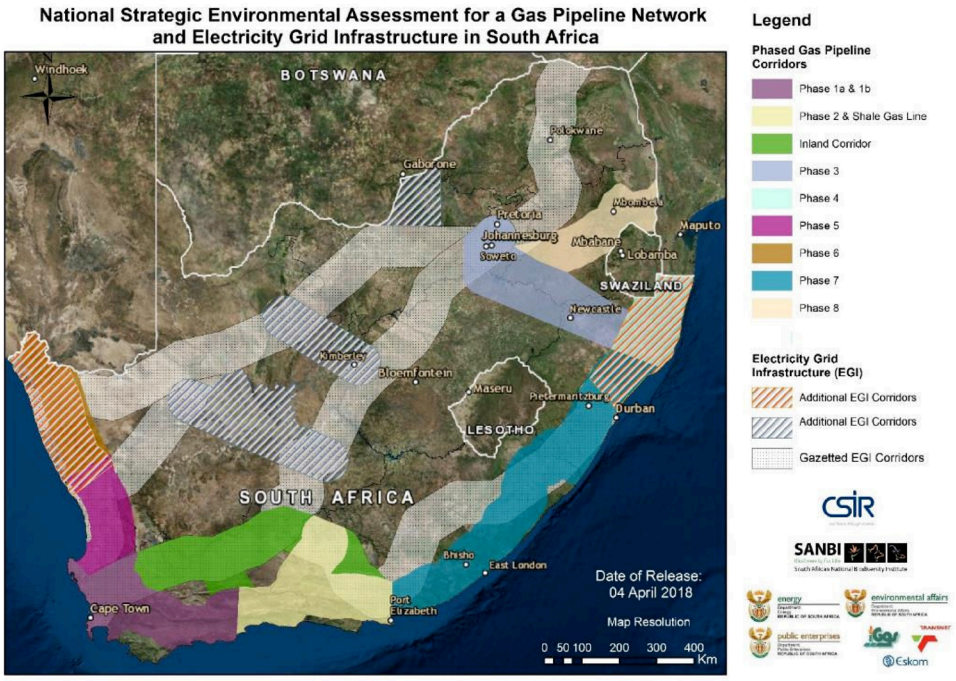


Figure 1 – Proposed location of Gas pipeline and additional EGI corridors (EGI Expansion Corridors_Amendment 1 (Orange striped corridors) and EGI Expansion Corridors_Amendment 2 (Blue striped corridors))

Copy of the Bulk User Feedback Form sent to the Industrial Stakeholders for the Industry Feedback Exercise

NATIONAL GAS PIPELINE NETWORK AND ELECTRICITY GRID INFRASTRUCTURE EXPANSION SEA

BULK ENERGY USERS

FEEDBACK FORM

May 2018

Webpage: https://gasnetwork.csir.co.za/

PLEASE COMPLETE	
NAME:	
ORGANISATION/COMPANY:	
DESIGNATION:	
EMAIL:	
PHONE:	

Page **1** of **10**

OBJECTIVE

The purpose of this exercise is to gather industry opinion on where:

- electricity transmission level infrastructure expansion needs to be prioritised (in the context of the **EGI expansion corridors**)
- gas transmission level infrastructure needs to be prioritised (in the context of the **Gas pipeline network corridors**)

in 0-5year, 5-15 year, and 15-30 year time horizons.

The inputs from this exercise will be used to inform the refinement of the corridors as well as the routing and positioning of electricity transmission infrastructure and Gas pipelines within the corridors.

FEEDBACK INSTRUCTIONS

A. EGI Corridors

Participants are requested to select 20km x 20km grid cells within or in the close vicinity of the proposed **EGI corridors** extent where they anticipate (and are able to justify) a future need for the provision of bulk electricity in order to support a planned development or significant development opportunity.

The map of the proposed EGI corridors and grid is available in KMZ format and can be accessed and downloaded from the project website at https://gasnetwork.csir.co.za/resources/ (Industry Feedback Exercise/EGI Expansion). Please note that Google Earth is required to view this file. Google Earth download is available here http://www.google.com/earth/download/ge/agree.html.

Please refer to this map when completing the exercise below. Please provide your input in the tables below by selecting up to five individual (different) cells from the map for each time horizon and provide a brief justification for your selection. Please indicate your selected cells in the tables below by including the cell identification (Id) from this map (e.g. 687). The cell identification can be sourced by clicking on the selected cell on the KMZ map and determining the "20km_REF_1" reference number from the "pop up" box. The KMZ map also details the location of Eskom substations (new and existing) for proposed unlocking. The substations are groups in Phases 1 – 4 in terms of time to unlock. Phase I: 2

years, Phase II: 3-4 years, Phase III: 4-5 yrs, Phase IV: 6-8 yr. Please also see Eskom Substation document for more information regarding the proposed installations/upgrades.

B. Gas pipeline network Corridors

Participants are requested to select 20km x 20km grid cells within or in the close vicinity of the proposed **Gas Pipeline network corridors** extent where they anticipate (and are able to justify) a future need for the provision of gas in order to support a planned development or significant development opportunity. Note that this SEA is only looking at transmission pipelines for high pressure gas (it does not look at LPG or LNG supply)

The map of the proposed Gas Pipeline network corridors and grid is available in KMZ format and can be accessed and downloaded from the project website at https://gasnetwork.csir.co.za/resources/ (Industry Feedback Exercise/Gas Pipeline network).

Please refer to this map when completing the exercise below. Please provide your input in the tables below by selecting up to five individual (different) cells from the map for each time horizon and provide a brief justification for your selection. Please indicate your selected cells in the tables below by including the cell identification (Id) from this map (e.g. 687). The cell identification can be sourced by clicking on the selected cell on the KMZ map and determining the "20km_REF_1" reference number from the "pop up" box.

Organisations are requested to limit submission to one complete form per organisation. However more than one submission per organisation will be considered under certain circumstances. Please contact the CSIR on below details for more information in this regard

Submission:

Please email completed form to gasnetwork@csir.co.za before **15 June 2018**

Note: **Individual participant selections will be kept strictly confidential**

SECTION 2 – EGI CORRIDORS: PLEASE PROVIDE DETAILS ON ANY AREAS EARMARKED/PLANNED FOR DEVELOPMENT WITHIN AND IN THE VICINITY OF THE EGI CORRIDORS EXTENT THAT COULD INFLUENCE THE FINAL LOCATION OF THE EGI CORRIDORS IN SUPPORT OF THESE AREAS.

GRID CELL REF NUMBER *"20km_REF_1" reference number from the "pop up" box on KMZ File*	SECTOR / ACTIVITY 1) *Please indicate what sector the energy demand in each cell relates to (e.g. mining, manufacturing, housing development, agriculture etc.). Please specify any other.* 2) *Please also indicate what is the primary energy consuming activity for each above cell selection?*	LIFETIME *Please indicate the anticipated lifetime of the activity requiring energy*	COMMENTS *Please provide justification for each cell selection (please justify selection by providing details on estimated annual energy requirements e.g. MWh per year/MW, annual production in tonnes or no. of houses to be build etc.)*
PLEASE SELECT UP TO 5 INDIVIDUAL CELLS WHERE THE PROVISION OF BULK ELECTRICITY SHOULD BE PRIORITISED IN A 0 TO 5 YEAR TIMEFRAME TO SUPPORT YOUR FUTURE DEVELOPMENT ACTIVITIES			

GRID CELL REF NUMBER *"20km_REF_1" reference number from the "pop up" box on KMZ File*	SECTOR / ACTIVITY 1) *Please indicate what sector the energy demand in each cell relates to (e.g. mining, manufacturing, housing development, agriculture etc.). Please specify any other.* 2) *Please also indicate what is the primary energy consuming activity for each above cell selection?*	LIFETIME *Please indicate the anticipated lifetime of the activity requiring energy*	COMMENTS *Please provide justification for each cell selection (please justify selection by providing details on estimated annual energy requirements e.g. MWh per year/MW, annual production in tonnes or no. of houses to be build etc.)*
PLEASE SELECT UP TO 5 INDIVIDUAL CELLS WHERE THE PROVISION OF BULK ELECTRICITY SHOULD BE PRIORITISED IN A 5 TO 15 YEAR TIMEFRAME TO SUPPORT YOUR FUTURE DEVELOPMENT ACTIVITIES			
PLEASE SELECT UP TO 5 INDIVIDUAL CELLS WHERE THE PROVISION OF BULK ELECTRICITY SHOULD BE PRIORITISED IN A 15 TO 30 YEAR TIMEFRAME TO SUPPORT YOUR FUTURE DEVELOPMENT ACTIVITIES			

GRID CELL REF NUMBER *"20km_REF_1" reference number from the "pop up" box on KMZ File*	SECTOR / ACTIVITY 1) *Please indicate what sector the energy demand in each cell relates to (e.g. mining, manufacturing, housing development, agriculture etc.). Please specify any other.* 2) *Please also indicate what is the primary energy consuming activity for each above cell selection?*	LIFETIME *Please indicate the anticipated lifetime of the activity requiring energy*	COMMENTS *Please provide justification for each cell selection (please justify selection by providing details on estimated annual energy requirements e.g. MWh per year/MW, annual production in tonnes or no. of houses to be build etc.)*

SECTION 3 – GAS PIPELINE NETWORK CORRIDORS: PLEASE PROVIDE DETAILS ON ANY AREAS EARMARKED/PLANNED FOR DEVELOPMENT WITHIN AND IN THE VICINITY OF THE CORRIDORS EXTENT THAT COULD INFLUENCE THE FINAL LOCATION OF THE GAS PIPELINE NETWORK CORRIDORS IN SUPPORT OF THESE AREAS.

GRID CELL REF NUMBER *"20km_REF_1" reference number from the "pop up" box on KMZ File*	SECTOR / ACTIVITY *3) Please indicate what sector the energy demand in each cell relates to (e.g. mining, manufacturing, housing development, agriculture etc.). Please specify any other.* *4) Please also indicate what is the primary energy consuming activity for each above cell selection?*	LIFETIME *Please indicate the anticipated lifetime of the activity requiring energy*	COMMENTS *Please provide justification for each cell selection (please justify selection by providing details on estimated annual energy requirements e.g. MWh per year/MW, annual production in tonnes or no. of houses to be build etc.)*
PLEASE SELECT UP TO 5 INDIVIDUAL CELLS WHERE THE PROVISION OF BULK GAS SHOULD BE PRIORITISED IN A 0 TO 5 YEAR TIMEFRAME TO SUPPORT YOUR FUTURE DEVELOPMENT ACTIVITIES			

GRID CELL REF NUMBER *"20km_REF_1" reference number from the "pop up" box on KMZ File*	SECTOR / ACTIVITY *3) Please indicate what sector the energy demand in each cell relates to (e.g. mining, manufacturing, housing development, agriculture etc.). Please specify any other.* *4) Please also indicate what is the primary energy consuming activity for each above cell selection?*	LIFETIME *Please indicate the anticipated lifetime of the activity requiring energy*	COMMENTS *Please provide justification for each cell selection (please justify selection by providing details on estimated annual energy requirements e.g. MWh per year/MW, annual production in tonnes or no. of houses to be build etc.)*
PLEASE SELECT UP TO 5 INDIVIDUAL CELLS WHERE THE PROVISION OF BULK GAS SHOULD BE PRIORITISED IN A 5 TO 15 YEAR TIMEFRAME TO SUPPORT YOUR FUTURE DEVELOPMENT ACTIVITIES			
PLEASE SELECT UP TO 5 INDIVIDUAL CELLS WHERE THE PROVISION OF BULK GAS SHOULD BE PRIORITISED IN A 15 TO 30 YEAR TIMEFRAME TO SUPPORT YOUR FUTURE DEVELOPMENT ACTIVITIES			

GRID CELL REF NUMBER *"20km_REF_1" reference number from the "pop up" box on KMZ File*	SECTOR / ACTIVITY *3) Please indicate what sector the energy demand in each cell relates to (e.g. mining, manufacturing, housing development, agriculture etc.). Please specify any other.* *4) Please also indicate what is the primary energy consuming activity for each above cell selection?*	LIFETIME *Please indicate the anticipated lifetime of the activity requiring energy*	COMMENTS *Please provide justification for each cell selection (please justify selection by providing details on estimated annual energy requirements e.g. MWh per year/MW, annual production in tonnes or no. of houses to be build etc.)*

A.7.4 Public Information Sharing Session Posters

Stage 1 Consultation: Project Initiation; Preliminary Draft Initial Corridors and Negative Mapping

Consultation during the Round 1 Public Outreach Roadshow

Copy of the Poster issued via various platforms with details of the Public Information Sharing Sessions for the Round 1 Authority Roadshow

STRATEGIC ENVIRONMENTAL ASSESSMENT FOR A PHASED GAS PIPELINE NETWORK AND ELECTRIC GRID INFRASTRUCTURE EXPANSION IN SOUTH AFRICA

environmental affairs Department: Environmental Affairs REPUBLIC OF SOUTH AFRICA

energy Department: Energy REPUBLIC OF SOUTH AFRICA

public enterprises Department: Public Enterprises REPUBLIC OF SOUTH AFRICA

Eskom

iGas

TRANSNET

The Department of Environmental Affairs hereby informs all Interested and Affected Parties (I&APs) and stakeholders of the Strategic Environmental Assessment (SEA) to identify the most appropriate development corridors for the location of a phased gas pipeline network to support the oil and gas industry. This process will also consider the expansion of corridors for Electricity Grid Infrastructure that were assessed as part of a separate SEA Process which concluded in 2016. The CSIR has been appointed by the DEA to undertake the SEA Process. The SEA will be focussed on nine corridors identified as key areas where gas transmission pipelines are required in order to meet future energy requirements. As noted above, this SEA will also include two additional corridors to expand the EGI corridors previously assessed. Figure 1 below depicts the proposed draft corridors to be assessed. The SEA will assess the environmental, social and economic constraints and opportunities for gas pipeline and EGI development within these corridors. The results of the assessment will serve to inform suitable routing options for gas pipelines and EGI expansion.

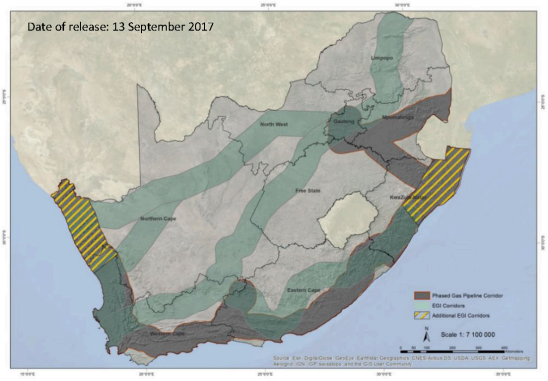
As part of this process the SEA Project Team will also consult with a wide range of stakeholders in order to validate findings from the assessment but to also receive additional input based on national, provincial and local priorities. The following Public Participation Meetings will take place at various locations in South Africa and you are invited to participate in the SEA Process by attending the relevant meeting. This is a platform for the I&APs to make inputs by identifying issues for consideration in the SEA Process.

Province	Date	Venue	Time
Western Cape	1 November 2017	Cape Town Library: 60 Darling St, Cape Town City Centre, Cape Town, 8000	17H30 – 19H15
Eastern Cape	2 November 2017	East London City Hall Conference Centre: Oxford St, East London City Centre, East London, 5201	17H00 – 19H00
Gauteng	6 November 2017	CSIR Johannesburg: Carlow Road & Rustenburg Road, Auckland Park, Johannesburg, 2109	17H00 – 19H00
KwaZulu-Natal	7 November 2017	CSIR: 359 King George V (5th) Avenue, Durban, 4000	17H00 – 19H00
Northern Cape	8 November 2017	Libra Hall: van Niekerk Street, Bergsig, Springbok	18H00 – 20H00
Western Cape	13 November 2017	George City Hall: 71 York Street, George, 6530	17H00 – 19H00

Please register your interest in the project and confirm attendance to any of the abovementioned public meetings by submitting your name and contact details (i.e. contact number, email address and postal address), to the following address: gasnetwork@csir.co.za or on the SEA website: http://gasnetwork.csir.co.za. Please confirm attendance by 30 October 2017. Should you have any query, please contact Ms Rohaida Abed (Project Manager: CSIR) by sending an email to gasnetwork@csir.co.za or Tel: (031) 242 2300.

VISION OF THE SEA

Strategic gas pipeline network and EGI is expanded in an environmentally responsible and efficient manner that responds effectively to the country's economic and social development needs.



CSIR our future through science

SANBI Biodiversity for Life South African National Biodiversity Institute

Figure 1 – Draft Energy corridors

Stage 2 Consultation (Draft Refined Corridors, Provincial, Municipal and Industry Feedback Exercise, and Draft Specialist Assessment and SEA Chapters)

Consultation during the Round 2 Public Outreach Roadshow

Copy of the Poster issued via various platforms with details of the Public Information Sharing Sessions for the Round 2 Authority Roadshow

STRATEGIC ENVIRONMENTAL ASSESSMENT FOR THE DEVELOPMENT OF A PHASED GAS PIPELINE NETWORK AND EXPANSION OF ELECTRICITY GRID INFRASTRUCTURE IN SOUTH AFRICA

The Department of Environmental Affairs (DEA) hereby informs all Interested and Affected Parties (I&APs) and stakeholders of the progress achieved on the Strategic Environmental Assessment (SEA) to identify the most appropriate development corridors for the location of a Phased Gas Pipeline Network and expansion of the Electricity Grid Infrastructure (EGI). The SEA was initiated in April 2017, and the Council for Scientific and Industrial Research (CSIR) was appointed by the DEA to undertake the SEA Process, in collaboration with the South African National Biodiversity Institute (SANBI).

This SEA supports the objectives of the Operation Phakisa Offshore Oil and Gas Lab, as well as the Strategic Integrated Project SIP 10: Electricity transmission and distribution for all. It aims to pre-assess the environmental, social and economic constraints and opportunities for gas transmission pipeline and EGI development within the proposed corridors. The results of the assessment will serve to inform suitable routing options for gas pipelines and EGI expansion within the corridors.

As part of this process the SEA Project Team will also consult with a wide range of stakeholders in order to receive additional input based on national, provincial and local priorities. The first Public and Authority Outreach took place in November 2017 to present the SEA Process and draft initial corridors to stakeholders. The initial corridors have subsequently been refined (Figure 1) and specialist assessments undertaken to pre-assess environmental sensitivities within the proposed corridors. The following Public Participation Meetings will take place at various locations in South Africa to present the draft findings of the specialist studies and you are invited to participate in the SEA Process by attending the relevant meeting. This is a platform for the I&APs to make inputs by identifying issues for consideration in the SEA Process.

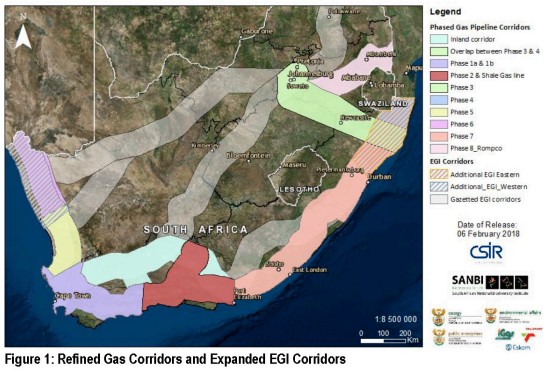
Province	Date	Venue	Time
Western Cape - George	8 October 2018	George Civic Centre (Banqueting Hall): 71 York Street, George	17H00 – 20H00
Eastern Cape - Port Elizabeth	9 October 2018	BPO (Business Process Outsourcing) Park: Discovery Building, Zone 4, Coega IDZ, Port Elizabeth	17H00 – 20H00
Eastern Cape - East London	10 October 2018	Premier Hotel Regent: Marine Park Complex, 22 Esplanade, Beachfront, Quigney, East London	17H00 – 20H00
KwaZulu-Natal - Durban	11 October 2018	CSIR: 359 King George V (5th) Avenue, Durban	17H00 – 20H00
Gauteng - Johannesburg	15 October 2018	CSIR: Corner of Carlow Road & Rustenburg Road, Auckland Park, Johannesburg	17H00 – 20H00
Northern Cape - Springbok	17 October 2018	Kokerboom Motel: Next to N7, Droëdap Road, Springbok (Co-ordinates: 29°42'45.2"S; 17°53'15.4"E)	17H00 – 20H00
Western Cape - Cape Town	22 October 2018	CSIR: 15 Lower Hope Road, Rosebank, Cape Town	17H00 – 20H00

Please register your interest in the project and confirm attendance to any of the abovementioned public meetings by submitting your name and contact details (i.e. contact number, email address and postal address), to the following address: gasnetwork@csir.co.za or on the SEA website: http://gasnetwork.csir.co.za. Please confirm attendance by 2 October 2018. Should you have any queries, please contact Ms Rohaida Abed (Project Manager: CSIR) by sending an email to gasnetwork@csir.co.za or Tel: (031) 242 2300.

VISION OF THE SEA

Strategic gas pipeline network and EGI is expanded in an environmentally responsible and efficient manner that responds effectively to the country's economic and social development needs.

National Strategic Environmental Assessment for a Gas network and EGI Expansion in South Africa



SANBI Biodiversity for Life
South African National Biodiversity Institute

CSIR our future through science

Figure 1: Refined Gas Corridors and Expanded EGI Corridors

A.7.5 Background Information Document

An initial Background Information Document was compiled in December 2017 and updated in November 2018 and June 2019. The most recent Background Information Document is included below.

Stage 1 Consultation: Project Initiation; Preliminary Draft Initial Corridors and Negative Mapping
Stage 2 Consultation (Draft Refined Corridors, Provincial, Municipal and Industry Feedback Exercise, and Draft Specialist Assessment and SEA Chapters)
Stage 3 Consultation (Final Pinch Point Analysis, Final Corridors and Draft Decision-Making Tools)

Copy of the Background Information Document that was issued via various platforms throughout the SEA Process

DEPARTMENT OF ENVIRONMENTAL AFFAIRS'
GAS PIPELINE NETWORK AND
ELECTRICAL GRID INFRASTRUCTURE EXPANSION
STRATEGIC ENVIRONMENTAL ASSESSMENT

NATIONAL DEPARTMENT OF ENVIRONMENTAL AFFAIRS' (DEA) STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA) FOR A PHASED GAS PIPELINE NETWORK AND EXPANSION OF THE ELECTRICITY GRID INFRASTRUCTURE IN SOUTH AFRICA

BACKGROUND INFORMATION DOCUMENT

Document prepared by:

Annick Walsdorff & Rohaida Abed
Environmental Management Services (EMS), CSIR
Email: gasnetwork@csir.co.za
Tel: (031) 242 2300

INTRODUCTION

In order to realise the potential of the gas reserves in the country and to contribute to the transition to a low carbon economy, the Operation Phakisa Offshore Oil and Gas Lab (August 2014) has set a target of achieving 30 exploration wells in the next 10 years. In addition, the need to accelerate the planning for gas to power as part of the Government's Integrated Resource Plan (IRP) and for State Owned Entities to pre-plan for the logical development of gas transmission servitudes within South Africa was identified. The phased development of an onshore gas transmission pipeline network therefore forms part of the infrastructure envisaged as an enabler for the offshore oil and gas exploration and has the potential to unlock further possibilities for the growth of the gas industry in South Africa.

To support the objectives of the Operation Phakisa Oceans Economy Oil and Gas Lab and to ensure that when required, environmental authorisations are not a cause for delay, the Department of Environmental Affairs (DEA), Department of Energy (DoE) and the Department of Public Enterprises (DPE) (representing iGas, Eskom and Transnet) intend to apply a Strategic Environmental Assessment (SEA) methodology to identify and pre-assess suitable gas routing corridors.

BACKGROUND TO GAS PIPELINE NETWORK AND ELECTRICITY GRID INFRASTRUCTURE EXPANSION SEA

In April 2017, the DEA appointed the Council for Scientific and Industrial Research (CSIR) to undertake a SEA for a Phased Gas Pipeline Network and for the expansion of the electricity grid infrastructure (EGI) corridors that were assessed as part of a separate SEA Process (in response to the Government's Strategic Infrastructure Build Program, Strategic Integrated Project SIP 10: Electricity transmission and distribution for all) which concluded in 2016.

The SEA will be focussed on nine corridors identified as part of Operation Phakisa as key areas where gas transmission pipelines are required in order to meet future energy requirements. As noted above, this SEA will also include two additional corridors to expand the EGI corridors previously assessed. The SEA will assess the environmental, social and economic constraints and opportunities for gas pipeline and EGI development within these corridors. The results of the assessment will serve to inform suitable routing options for gas pipelines and EGI expansion.

It is intended that the final corridors will be submitted to Cabinet for approval to ensure buy-in from all Departments and to encourage the embedment and integration of these corridors into the Provincial and Local planning mechanisms to secure long term energy planning.

The SEA is expected to be completed by the end of 2019.

A full description of the SEA vision and objectives is available on Page 4 of this document.

SEA Focus Areas: The Corridors

The proposed gas pipeline corridors are defined as follows (refer to Figure 1):
1) From Saldanha Bay to Atlantis and from Atlantis to Mossel Bay on the south coast.
2) From Mossel Bay to Coega on the south coast.
3) An inland corridor from Saldanha to Mossel Bay and Coega.
4) From Coega to Durban on the east coast.
5) From Durban to Richards Bay and to the border of Mozambique to facilitate an import option.
6) A strengthening of the existing Lilly Pipeline from Sasolburg to Richards Bay and Durban by a second pipeline following a similar route.
7) From Sasolburg to the border of Mozambique.
8) From Saldanha Bay to Abraham Villiers Bay (landing point for the Ibhubesi field).
9) From Abraham Villiers Bay to northwards to the Namibian border (Oranjemund), to link to potential Kudu gas extraction.
10) From Mossel Bay and Coega to the Shale Gas areas.

The additional two EGI corridors assessed as part of this SEA are located along the coast, north-west and north-east of the country.

National Strategic Environmental Assessment for a Gas network and EGI Expansion in South Africa

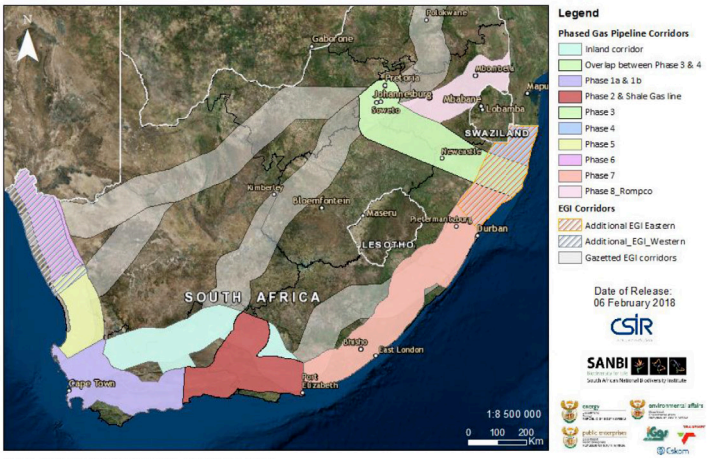


Figure 1: Proposed Corridors: The SEA Focus Areas

VISION OF THE SEA

*Strategic gas pipeline network and EGI is expanded in an environmentally **responsible** and **efficient** manner that responds **effectively** to the country's economic and social development needs.*

OBJECTIVES OF THE SEA

The overall objective of this SEA is framed as:

"*In partnership with the Department of Energy and Department of Public Enterprises representing iGas, Eskom and Transnet, and in consultation with relevant stakeholders, identify routing corridors, environmental management measures such as norms or standards or minimum information requirements with the intent to streamline the environmental authorisation process or to exempt the development of linear infrastructure associated with energy provision, including a gas pipeline network and electricity grid infrastructure, from environmental authorisation, as well as interventions required to secure on the long term the energy planning corridors and zones identified.*"

A SEA is an environmental assessment tool used to (i) determine environmental implications of strategic development, policies & plans, (ii) integrate environmental, social and economic considerations, (iii) shape future development and onsite assessment requirements. While the Environmental Impact Assessment (EIA) tool is used to evaluate the impacts of a proposed development on a small scale site, the SEA tool is used to evaluate the opportunities and constraints of the strategic development at regional scale. By focusing on higher-level processes, the SEA tool can provide a framework for future project-level assessments/requirements within the pre-assessed regional scale.

The SEA aims to ensure that the development of a gas transmission pipeline network and EGI would be:

- Effective
  - Identify strategic energy corridors at a national scale based on future energy supply and demand requirements, environmental sensitivities as well as social and economic development priorities at a national, regional and localised level.
- Efficient
  - Pre-assessing environmental sensitivities to avoid fatal flaws and focus on the site specific level of assessment required, with the aim to exempt the developments under consideration from environmental authorisation within the gazetted corridors **or** to streamline the applicable environmental authorisation process within the corridors.
  - Enabling the developers the flexibility to consider a range of route alternatives within the pre-assessed corridors to avoid land negotiation issues.
  - Improve coordination to implementation through the promotion of dialogue and collaborative governance between authorities mandated to approve or license aspects of gas pipeline and EGI development
- Responsible
  - Develop a site specific development protocol which prescribes the level of site specific assessment required and prescribes the assessment process.
  - Share research learnings with government, academic and public forums to promote environmental assessment.
  - Contribute to skills development by involving interns in the delivery of the project and through the widespread promotion and sharing of the research findings.

PHASES OF THE SEA

The SEA process has been designed in three overlapping phases as indicated in Figure 2 below.

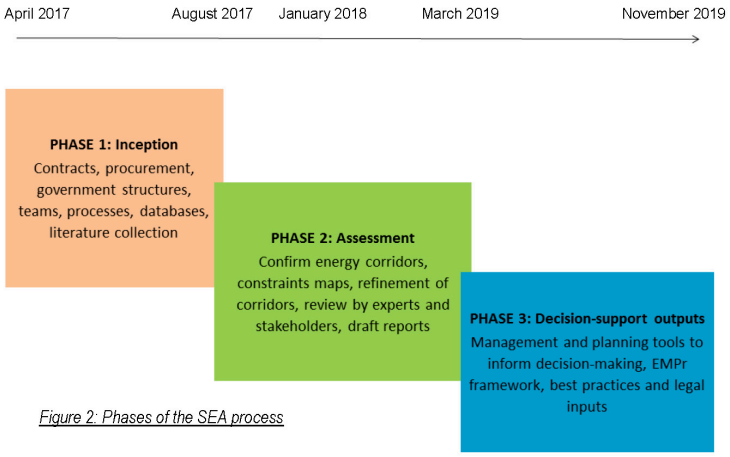


Figure 2: Phases of the SEA process

NEXT STEPS

The corridors (100km in width to enable the identification of routing alternatives) will be the focus areas of the SEA. Phase 1 of the SEA Process was completed in 2017. The SEA Project Team are currently working on Phase 2 of the SEA, which entails the assessment of the corridors. The constraints mapping has been completed to identify key environmental and engineering constraints that should be avoided when planning a transmission pipeline or power line. As part of this exercise the CSIR will also undertake positive mapping and look for favourable areas for transmission pipeline development based on social and economic development opportunities. The Draft Specialist Assessment Chapters were released for comment in April 2019. Following the closure of the comment period, the final corridor refinement process will be undertaken to identify the final corridors for gazetting.

As part of this process the SEA Project Team will also consult with a wide range of stakeholders including government, industry and specialists in order to validate findings from the assessment but to also receive additional input based on national, provincial and local priorities. The SEA Project Team will be engaging with key stakeholders through the following:

1. A series of public meetings (the first round of public meeting was held from 01 November to 13 November 2017. A second round was held from 8 October to 22 October 2018);
2. A series of sector specific meetings;
3. Placing regular feedback and information on the dedicated project website;
4. Gathering written comments sent either via email (gasnetwork@csir.co.za or via the SEA website: http://gasnetwork.csir.co.za).

Additional information can be found on the dedicated project website: https://gasnetwork.csir.co.za.

Please register your interest in the project by submitting your name and contact details (i.e. contact number, email address and postal address) to the following address: gasnetwork@csir.co.za or register on the SEA website: http://gasnetwork.csir.co.za.

A.7.6 Frequently Asked Questions

An initial set of Frequently Asked Questions was compiled in February 2018 and updated in November 2018. The most recent set of Frequently Asked Questions is included below.

1. Purpose of the Gas Pipeline and Electricity Grid Infrastructure Expansion SEA

1.1. How will the SEA Process facilitate the efficient and effective construction of Gas Transmission Pipeline Infrastructure and the expansion of strategic Electricity Grid Infrastructure in South Africa?

- **Integration**

The Strategic Environmental Assessment (SEA) Process is aimed at integrating environmental, economic and social factors to identify areas where Gas Transmission Pipeline and Electricity Grid Infrastructure (EGI) construction and expansion will have the lowest possible impact on the environment whilst yielding the highest possible social and economic development opportunities to the country. This process will ensure that future Gas Transmission Pipeline and EGI development in these areas is done sustainably.

- **Agreement**

The SEA Process provides a platform for iGas, Transnet, Eskom, government departments, private sector, and non-government institutions to partner and provide input into where strategic gas and electrical transmission infrastructure should be prioritised and corridors established. The intent is for agreement and commitment to be officiated through Cabinet approval and a gazetting process.

- **Alignment**

The cabinet approval and gazetting of the corridors and the outputs of the SEA (final corridors, Environmental Management Programme, Norms or Standards and the pre-construction Site Specific Environmental Assessment Protocol) will allow for alignment of the three spheres of government (including National, Provincial and Local Government) by adopting the corridors and its associated processes into future policies and spatial plans (e.g. Integrated Development Plans (IDPs) and Spatial Development Framework (SDFs)). This will, in turn, create an enabling environment which will allow for the streamlining of development processes in these corridors.

- **Strategic Planning**

The certainty resulting from the adoption of the corridors will allow potential developers to be more proactive when undertaking servitude negotiation with landowners and agree on land parcels and route options based on environmental sensitivity, upfront. Gazetted corridors will also help potential developers to motivate for the necessary funding to build in these corridors.

1.2. What will incentivise developers to develop in the corridors rather than outside?

The outcomes of the SEA will assist in developing in these areas by:

- **Decreasing Risk**

The high level agreement and commitment to the corridors will decrease the risk of not obtaining authorisation, should potential developers target areas for development that have been pre-assessed and classified as having lower levels of environmental sensitivity. Potential developers will be able to assess many risks upfront (including environmental, access to land and cost of land) prior to seeking authorisation for a specific route, if applicable.

- **Streamlined Process**

The corridors represent pre-assessed areas that are best suitable for the development of gas and electrical transmission infrastructure and within which a streamlined environmental permitting process is proposed or where development of such infrastructure would be exempt from environmental authorisation. In addition to scoping level assessment of the corridors, interdepartmental and intergovernmental alignment will allow for streamlined authorisation processes. This will include obtaining the necessary authorisations for other permit requirements such as Water Use Licenses and Forest Clearing Permits.

1.3. How many gas transmission pipelines and EGI power lines will be built in each of the corridors, and will they be constructed in a particular sequence?

- **Gas Transmission Pipelines:**

It is difficult to comment on exactly how many new gas transmission lines will be constructed in each corridor as the possible sources of offshore gas is based on the geology offshore and these reserves have not yet been proven. In addition, South Africa's future demand and generation footprint is unclear. However, it is estimated that one gas transmission pipeline will be constructed within each corridor, as the pipeline will be driven by finding a gas reserve and will only be constructed based on a business case. The proposed project phases are independent of each other and each one will be based on its own business case.

- **EGI:**

The corridors can be considered the future transmission backbone of South Africa. Transmission level power lines already exist within each of the expanded EGI corridors. Where possible; existing lines will be upgraded to support additional capacity. It is difficult to comment on exactly how many new power lines will be necessary in each corridor as the composition and geographical distribution of South Africa's future generation footprint is still unclear. Based on current and available information, no more than three or four new transmission level lines will be needed within each expanded corridor over the course of the next 30 years. The upgrade and development of major transmission substations will also be necessary in each of the expanded corridors.

2. Environmental Authorisation in the Corridors

2.1. Will the SEA replace the need for project level environmental authorisation within the corridors?

The scoping level of environmental assessment undertaken as part of the SEA is not sufficient for project level decision making in terms of NEMA, and further assessments will still be necessary once a specific project is proposed to be constructed. With the scoping requirements being met inside of the corridors, all Gas Transmission Pipeline and Electricity Grid Infrastructure (EGI) projects, and associated infrastructures, that currently require Environmental Authorisation will either follow a streamlined project level environmental assessment process, for example, in the form of a Basic Assessment (BA), or compliance with a Norm or Standard that will be compiled as part of the SEA (where the need for an Environmental Authorisation application will be negated). The scope of the project level process in the corridors will be informed by the pre-construction Site Specific Environmental Assessment Protocols, and will be undertaken in accordance with the relevant regulations current at the time.

2.2. How will integrated authorisation be accomplished?

The SEA Process provides a platform for competent authorities and other permitting or commenting agencies to provide their requirements for development in the corridors upfront. Consensus will be reached on how these requirements will be incorporated into the pre-construction Site Specific Environmental Assessment Protocol. If a proposed project complies with the requirements of the pre-construction Site Specific Environmental Assessment Protocol, it would imply that all the requirements of authorising and permitting authorities have been met, and thus either a single inclusive permit can be issued or multiple authorisations and permits can be issued at the same time.

3. Scope of the SEA

3.1. Is the SEA only considering transmission infrastructure within the corridors?

- **Gas Transmission Pipelines:**

This SEA covers high pressure onshore gas transmission pipelines (i.e. with a pressure greater than 15 bar) and associated infrastructure, including pigging stations, block valves and access roads. Note that compressor stations are excluded from this scope of work. The purpose of this proposed gas pipeline is to transport large quantities of the gas to various markets. The receiver of the gas will be responsible for obtaining their own project specific environmental authorisations, dependent on their specific business case, including for distribution and reticulation to end users.

- **EGI:**

The location of the preliminary corridors is based on the results of a detailed Eskom Strategic Grid Plan study to determine future transmission needs across South Africa in the context of balancing major power supply and demand requirements up to 2040. Therefore, the final location of the corridors will be based on transmission level need only (rather than distribution level) and will facilitate the future transmission backbone of South Africa. However, any change in the Environmental Authorisation process within the corridors, which may be brought about as a result of this assessment, will apply to both transmission and distribution level EGI infrastructure.

4. What issues will be assessed in the SEA?

The SEA will follow a holistic approach, recognising the interconnectivity of environmental, social, and economic opportunities and constraints. The following Strategic Issues have been identified as part of the scope of the assessment:

Specialist Study	Assessment Type	Strategic Issue
Biodiversity and Ecological Impacts	Multi-Author	<u>Terrestrial Ecosystems, Flora and Fauna (including Bats):</u> ▪ Fynbos Biome ▪ Savannah and Grassland Biomes ▪ Indian Ocean Coastal Belt Biome ▪ Albany Thicket Biome ▪ Succulent and Nama Karoo Biomes

		<u>Aquatic Ecosystems, Flora and Fauna:</u> ▪ Estuaries ▪ Rivers and Wetlands
Socio-Economic and Planning Assessment	Multi-Author	▪ Benefits and Opportunities of Gas ▪ Regional and Settlement Planning ▪ Governance and Disaster Management
Seismicity	Multi-Author	▪ Earthquakes and Faults
Avifauna	Single Author	▪ Avifauna
Visual	Single Author	▪ Visual

In addition to the above, a Soils and Agricultural specialist will provide inputs to the sensitivity mapping, EMPr and Protocols for the agricultural land component.

5. Who will assess the identified issues?

Authors comprising the Multi-Author Teams within the specified Strategic Issues will undertake the assessment. The Authors will require acknowledged expertise and have been drawn from a broad range of independent specialists and sectors such as research institutions, government, NGOs, universities, the energy and oil and gas sector, etc., and across different regions of South Africa to ensure a broad balance of interest is represented through the reporting structures.

6. What is the primary output of the SEA?

The primary output of the SEA will be a Decision-making Framework to be interpreted by the relevant authorities. This will consist of:

- Final corridors;
- Sensitivity, vulnerability and risk spatial datasets for surface and subsurface environmental attributes;
- Recommended pre-construction Site Specific Environmental Assessment Protocols detailing the level of site specific assessment required;
- Generic Environmental Management Program (EMPr) framework and principles; and
- Norms or Standards.

7. How will stakeholders be engaged during the SEA?

- **Briefings, Outreach and Participation**

There will be two rounds of public outreach during this SEA. The first round took place from 1 November 2017 to 13 November 2017 to inform the public of the SEA Process and to introduce the draft initial corridors. This round of public outreach took place in Cape Town, East London, Johannesburg, Durban, Springbok and George. A second round of public outreach is expected to be undertaken at the end of Phase 2 when the specialist assessment is completed and the finalised corridors are available for comment. It is likely that the second round of public outreach will be conducted at the same locations as those in the first round.

The purpose of the public briefings is not to capture comments in a 'town-hall' fashion (similar to what would be undertaken as part of an EIA Process), but to engage meaningfully on issues and keep people informed of the mechanisms by which they can access information and documents and make comments. It should be noted that the SEA is not a project-level, EIA Process subject to the NEMA EIA Regulations for public participation. It is a national level strategic assessment tool, which is

designed, where practically possible, to engage with as many stakeholders as far as possible.

- **Commenting on Reports**

Outputs of the assessment, in report format, will be peer reviewed. Validation through a peer review process is key to ensuring the quality, and thus the credibility of the assessment. Peer review is a standard way of approving the quality of information in the scientific community.

Furthermore, the involvement of different users in the review process is important as it can provide a much broader range of comments, form part of the communication strategy, and contribute to ongoing user engagement in the process. In this regard, all formal comments from 'general' stakeholders on reports will be captured via the project website when documents are made available over certain window review periods. Official comments will be captured and responded to in a formal manner, subject to the 'user conditions' under which they are submitted.

- **How can I participate in the Gas Pipeline and EGI Expansion SEA?**

You can participate in the SEA by registering as a stakeholder on the Stakeholder Portal page of this website. As a registered stakeholder you are able to log in to the SEA website to:

- Make official written comments on the draft reports via the project website or via email during specified Report Commenting Windows (RCWs) (these comments will be captured and responded to in the final reports); and
- Keep up to date on project progress and key milestones.

Comments submitted during the RCWs and during the Public Outreach meetings will form part of the official project report.

You can download a guide for registering as a stakeholder here.

If stakeholders have any queries or encounter any technical difficulties during the registration process, they are welcome to contact the project team using the contact details provided on the "Contact Us" webpage on the project website.

8. How wide will the gas transmission pipeline servitude be during the construction and operational phases; and how deep will the gas transmission pipeline be?

A 30 m to 50 m wide construction right of way would be required during the construction phase.

A servitude width of 10 m would be registered on the affected properties during the operational phase. The laying of the proposed gas pipeline would follow the normal servitude procedures and there would be negotiations with the land owners which are affected at the time. The final route selection will depend on these servitude negotiations, on a project specific basis, and the obtaining of the necessary environmental approvals (which will be guided by this SEA Process).

The top of the proposed pipeline would be approximately 1 m underground all along the route, with pigging stations above ground approximately every 130 km but possibly as far apart as 250-500 km with new technology.

9. Will National Government fund the construction of the gas transmission pipelines?

Although iGas, Transnet and Eskom are involved in the Gas Pipeline and EGI Expansion SEA and are State Owned Companies (SOCs), the proposed pipeline development will not be financed by government. It will be financed by developers based on each viable business case.

10. What is the current uptake of Natural Gas in South Africa, and where will the Natural Gas be sourced from?

The current uptake of gas in South Africa is estimated at 196 million GJ/a, from the Pande Temane fields in Mozambique to Sasol's Secunda Gas-to Liquids facility. Sasol's Gas Pipeline Network from Secunda and Gauteng is estimated at 45 million GJ/a. Transnet's Lilly Pipeline supplies methane rich gas (MRG) from Sasol to Durban with offtake points in Newcastle, Empangeni, Richards Bay and Durban, with a current transportation volume of 23 MGJ/a. There is also PetroSA's subsea pipeline to Mossel Bay.

The natural gas will potentially be sourced offshore of South Africa's coast or imported (which includes LNG and gas from Mozambique). However, Shale Gas from the Karoo has also been identified as a potential driver and should be considered.

11. What is the recommended distance of the gas transmission pipeline infrastructure from other infrastructure, including EGI?

The minimum distance for other structures from the gas transmission pipeline is 1 km from high voltage electrical transmission lines and between 300 m and 500 m for other structures, depending on the diameter of and gas pressure in the pipeline. Research also points to other factors for consideration e.g., the longer the two infrastructure run in parallel (in this case specifically gas and EGI) the higher the probability of induced electric current in the pipeline as well as the possibility of current leakage to the pipeline in the event of a pipeline coating failure or during lighting strikes. Consideration must also be given to the "burning radius" which means that, in the case of a pipeline leak and gas ignition, anything within that radius will burn immediately. This is about 800 m (worst case scenario at ~ 100bar). Therefore, based on the above it is recommended that a "safety margin or factor" of at least 5x is applied to the 1 km stated – therefore 5 km distance is considered to be the safest distance from high voltage electrical transmission lines.

12. Why are the previously gazetted Northern and Eastern Electrical Grid Infrastructure (EGI) being expanded to the border of Namibia and Mozambique, respectively?

The extension of the EGI is to assess the corridors to the borders of South Africa, to support potential business cases extending to Mozambique and Namibia, as well as to facilitate potential import and export of power in these regions.

A.7.7 Curriculum Vitae of the Independent Public Facilitator

Curriculum Vitae of Bongi Shinga

Name of Staff: SHINGA, Bongi
Company: Wakhiwe Stakeholder Engagement Specialists
Position in Company: Stakeholder Engagement Specialist
Date of Birth: Stakeholder Engagement, Public Participation & Community Liaison and Public Relations
Nationality: South African

EDUCATION

Qualification	Institution	Year
BSc (Microbiology & Ecology)	University of Zululand	1998

BACKGROUND AND KEY EXPERIENCE

Bongi Shinga has 18 years' experience in communications management, stakeholder engagement and public participation processes, in support of environmental management and development processes. Her distinguishing and enthusiastic character has contributed to her reputation of implementing effective stakeholder engagement programmes. She has extensive experience in running complex yet successful communication programmes in the water, energy, transportation, mining and conservation sectors.

Bongi's practical experience includes a record of managing complex projects with often challenging stakeholders. She has successfully established and maintained relationships with stakeholders which is essential for ensuring and achieving desired project outcomes. She has an impressive track record in establishing and managing functional project steering committees which are set up as platforms for facilitating dialogue between communities, stakeholders and developers. She also has actively managed public participation processes for the review of policies and management plans in the conservation and tourism sectors.

Her ability to communicate and interact with all levels of stakeholders (local, provincial and national), in both rural and urban settings has contributed to effective approaches for monitoring and maintaining stakeholder relationships. She is well-versed in the requirements of public participation as applied in environmental assessments in South Africa.

RECENT EXPERIENCE RECORD

1) Establishment and management of Project Liaison Committees along the National Route 3. N3TC (Pty) Ltd (August 2017 – August 2020). Stakeholder Engagement Team Leader responsible for the establishment and management of Public Liaison Committees along a 400km road transport corridor between the Cedara interchange, near Hilton, in KwaZulu-Natal and the Heidelberg South interchange in Gauteng. This project forms part of the implementation of SANRAL's new 14-point plan which is a component of the Horizon 2030 Long Term Strategy. This includes the management and operations of all the committees once established.

2) KwaDukuza Coast Landfill Management (Pty) Limited (DCLM), KwaZulu-Natal. (January - December 2018). Stakeholder Engagement Specialist responsible for the development of the communication strategy for the KwaDukuza Landfill Site. Other activities included coordination and facilitation of public and/or community meetings.

3) Exploration Drilling within Block ER236, off the East Coast of South Africa, KwaZulu Natal (February 2018). Facilitator for the public meeting to present findings on the Draft Scoping Report to stakeholders within the Durban South areas. (This was a special request to assist Eni South Africa BV (Eni), and Sasol Africa Limited (Sasol) to also provide translation of technical content in Zulu in order to engage Durban South residents meaningfully).

4) Jane Furse Regional Water Supply Scheme. Sekhukhune District Municipality, Limpopo (February – July 2018). Social Facilitation Team Leader responsible for the consultation process towards the refurbishment of the Jane Furse Water Supply System in the Sekhukhune District Municipality. The stakeholder engagement supported the technical interventions that were required to ensure reliable water supply in the Jane Furse town and to the surrounding Flag Boshielo communities.

5) Maloti-Drakensberg Park World Heritage Site (MDP WHS) Tourism Strategy. United Nations Educational, Scientific and Cultural Organisation (UNESCO) (May 2017 - February 2018). Public Participation Team Leader responsible for stakeholder engagement and consultation process to support the development of a sustainable Tourism Strategy for the MDP WHS which is a protected area spanning between the Kingdom of Lesotho and Republic of South Africa.

6) Classification of water resources and determination of Resource Quality Objectives in the Mzimvubu Catchment within the Mzimvubu to Tsitsikamma Water Management Area (WMA7). Department of Water & Sanitation (2016 – 2018). Public Participation Team Leader responsible for the stakeholder engagement component, compilation of public documents, the establishment of Project Steering Committee and providing opportunities for stakeholder inputs to the technical process and reports.

7) Maloti-Drakensberg Park World Heritage Site Buffer Zone Policy. Ezemvelo KZN Wildlife. (2016). Team leader responsible for stakeholder engagement for the draft policy review, mapping of stakeholders, compilation of public documents and stakeholder liaison which include local government (district and local), Traditional Councils and local community.

8) Eskom's Northern KwaZulu-Natal Strengthening Project. Eskom Holdings (SOC) Limited (2016 – 2018). Team leader responsible for the stakeholder engagement process, which is a key component of the Environmental Authorisation Process. Responsible for consulting with 29 Traditional Councils within Umkhanyakude and Zululand Districts.

9) Feasibility Study for the Lower uMkhomazi Bulk Water Supply Scheme (including the Ngwadini off-channel Storage Dam). Umgeni Water (2016). Team leader responsible for stakeholder engagement, communication support and landowner consultation in preparation for the geo-technical investigations. Distribution of public documents, project information to landowners within the proposed study area and report writing.

10) Feasibility Study for the Mhlabatshane Bulk Water Supply Scheme Phase 2. Umgeni Water (2016). Team leader responsible for stakeholder engagement aspects for the feasibility study. Coordination and planning of meetings with Traditional Councils and local councilors of affected areas.

11) Continuation of the Reconciliation Strategy of the KwaZulu-Natal Coastal Metropolitan Area: Phase 2. Dept. Water & Sanitation, 2014 - 2016). Stakeholder Communication Coordinator providing Secretariat services and communication support to the Department of Water and Sanitation for the Strategy Steering (SSC) Committee in KwaZulu-Natal.

12) uMkhomazi Water Project Phase 1: Module 1: Technical Feasibility Study: Raw Water, Dept. Water & Sanitation (DWS), KZN, SA (2012- 2015). Public Relations Officer responsible for stakeholder engagement. This included communication support and guidance to the environmental team. Communication management through appropriate approaches to engage Traditional Councils, landowners, local community and public expectations arising from the project. Planning and coordination of all stakeholder meetings.

13) uMkhomazi Water Project Phase 1: Module 2: Environmental Impact Assessment. Dept. Water & Sanitation (DWS), KZN, SA (2014- 2016). Facilitation of public meetings for the Raw Water Component of the project. Provision of communication support to Nemai Consulting.

14) uMkhomazi Water Project Phase 1: Module 2: Environmental Impact Assessment. Dept. Water & Sanitation (DWS), KZN, SA (2014- 2016). Stakeholder engagement supporting the

Resettlement Action Plan which was developed for the relocation of households affected by the Raw Water Component of the project. Resettlement planning required continuous participation and thorough consultations with a wide range of affected persons and stakeholders in the project area.

15) Franschhoek Civic Amenity Centre: Site Selection Process. Stellenbosch Local Municipality, Western Cape (2015). Responsible for the public participation process in support of the site selection process. This included planning of the overall communication process with the residents of Franschhoek, coordination of site visits to existing amenity centres in Cape Town, compilation of documentation to support the Site Selection Report.

16) ERICA-SWITCHING STATION 400kV Double Circuit Transmission Power Line Project, Cape Town, Western Cape (2015). Responsible for key stakeholder engagement, coordination of focus group meetings and review of all public participation documentation.

17) Operational Environmental Management Programme (EMPr) for the immediate and short term intervention for the treatment of Acid Mine Drainage in the Western, Central and Eastern Basins of the Witwatersrand Gold Field Project: Operational EMPr for the Central Basin water treatment plant (2014). Reviewer for stakeholder engagement process.

18) Feasibility Study for Foxwood Dam. Dept. Water & Sanitation. Eastern Cape (2013 - 2014). Stakeholder Engagement Leader responsible for communication and stakeholder engagement requirements for the feasibility study. Establishment and management of both Stakeholder Forum and Technical Working Groups providing inputs to the technical components.

19) Classification of water resources and determination of the comprehensive reserve and Resource Quality Objectives in the Mvoti to Umzimkulu Water Management Area. Dept. Water & Sanitation (2012 - 2015). Responsible for the stakeholder engagement component, the establishment of Project Steering Committee and providing opportunities for stakeholder inputs to the technical process and reports.

20) Zulti South Mineral Lease Area. Pre-feasibility Social and Socio-Economic Impact Assessment of the Dube and Mkhwanazi Traditional Authority Areas for the Mine Services. Richards Bay Minerals (2012). Stakeholder Engagement Component and contributing author.

21) Capacity Building and Leadership Development in support of Conservation and Effective Co-management of the iSimangaliso Wetland Park. KwaZulu-Natal. (2011 – 2013). Appointed as a Programme Co-Facilitator.

22) Environmental Impact Assessment for the proposed National Road 3: Keeversfontein to Warden (De Beers Pass Section). KwaZulu-Natal and Free State. South African National Roads Agency Ltd (SANRAL) (2010 ongoing). Subcontracted by Cave, Klapwijk & Associates to manage the Public Participation Process. Role: Public Participation Team Leader.

23) Public Participation Process for the construction of Fairbreeze Mine, Mtunzini, KwaZulu-Natal (2013 – 2014). Responsible for Public Participation Process. Exxaro KZN Sands.

24) Public Consultation Process for the Closure of Hillendale Mine, KwaZulu-Natal, South Africa (2012). Exxaro Resources. Management of Public Participation Programmes.

25) Transnet Multi-Products Pipeline (2009 – 2010). Environmental authorisation for four power lines feeding Pump Stations 1, 3 and 5 and Inland Terminal 2, KwaZulu-Natal and Gauteng. Responsible for Project Management aspects and Public Participation inputs for all four projects.

26) Developing a Toolkit for Water Use Allocation Planning for the Department for International Development and Department of Water and Forestry (2003 – 2004). Responsible for Communication, Community Participation and Rural Community Upliftment.

27) Water Conservation and Water Demand Management Potential Assessment for Mokolo River Catchment. Limpopo Province. Department: Water and Forestry (2005 – 2006). Responsible for Stakeholder Engagement component and Knowledge, Attitude and Practices (KAP) Survey.

28) Environmental Impact Assessment Process for the proposed Nuclear Power Stations in Eastern, Northern and Western Cape Provinces. Eskom Holdings SOC Limited, Generation Division (2007 – 2010). Team Leader for the Public Participation component of the study.

29) Environmental Impact Assessment for the proposed 400MW (t) Pebble Bed Modular Reactor Demonstration Power Plant on the Koeberg Nuclear Power Station, Western Cape. (2007 – 2008). Responsible for the Public Participation Process component. Role: Public Participation Team Leader.

30) Environmental Authorisation process for the construction of Gamma Substation in the Northern Cape, 765kV Transmission Power Lines from Gamma (Northern Cape) to Grassridge (Eastern Cape). Eskom Holdings SOC Limited, Transmission Division (2006 – 2008). Role: Public Participation Consultant (Team Leader).

31) Proposed construction of a 765kV Transmission Power Line from Dealesville (Free State) to De Aar (Northern Cape). Eskom Holdings SOC Limited, Transmission Division (2005 – 2006). Role: Public Participation Consultant (Team Leader).

32) Environmental Authorisation Process for the Braamhoek Transmission Power Line & Sub-Station Integration for the Braamhoek (Ingula) Pumped Storage Scheme, KwaZulu-Natal. Eskom Holdings SOC Limited, Generation Division (2004 – 2005). Role: Public Participation Consultant.

CAREER CHRONOLOGY

Employer	Wakhiwe Stakeholder Engagement Specialists	From:	Jan 2016
Position:	Director and Stakeholder Engagement Specialist	To:	Present
Employer:	AECOM SA (Pty) Ltd	From:	Oct 2014
Position:	Public Participation Manager: Environmental Services	To:	Dec 2015
Employer:	ACER (Africa) Environmental Consultants	From:	June 2007
Position	Public Participation Manager & Director	To:	Oct 2014
Employer:	ACER (Africa) Environmental Consultants	From:	2001
Position:	Public Participation Officer	To:	May 2007

LANGUAGES

	Speak	**Read**	**Write**
English:	Excellent	Excellent	Excellent
Zulu:	Excellent	Excellent	Excellent
Xhosa:	Good	Good	Good

A.7.8 Notes of ERG Meetings and Public Information Sharing Sessions

A.7.8.1 Notes of ERG Meeting 1 – 13 September 2017

Meeting:	**Expert Reference Group 1**		
Date of Meeting:	13 September 2017		
Venue of Meeting:	Council for Scientific and Industrial Research(CSIR) Pretoria Campus, Meiring Naude Road, Brummeria, Pretoria: Knowledge Commons – Ulwazi Auditorium		
Duration:	13H00 to 15H10		
Attendees:	▪ Annick Walsdorff (AW) ▪ Samukele Ngema (SN) ▪ Dee Fischer (DF) ▪ Simon Moganetsi (SM) ▪ Thembi Hlatshwayo (TH) ▪ Alfred Mocheko (AM1) ▪ Dries Putter (DP1) ▪ Ernest Daemane (ED) ▪ Aldworth Mbalati (AM2) ▪ Christian Prins (CP) ▪ Johan Pauw (JP) ▪ Rudzani Tshibalo (RT) ▪ Khathutshelo Tshipala (KT) ▪ Tobile Bokwe (TB) ▪ Koogendran Govender (KG) ▪ Mapaseka Lukhele (ML) ▪ Thabani Dlamini (TD) ▪ Joan Arrikum (JA) ▪ Zombango Nondabula (ZN) ▪ Jonathan Booth (JB) ▪ Alan Mukoki (AM3) ▪ Magezi Mhlanga (MM1)	▪ Nomathemba Mazwi (NM) ▪ Mohsin Seedat (MS) ▪ Keshan Pillay (KP) ▪ Elsabe Swart (ES) ▪ Ajay Trikam (AT) ▪ Thamsanqa Ngwenya (TN) ▪ Khululekile Mase (KM) ▪ G. Kegakilwe (GK) ▪ T. Phetla (TP) ▪ Jannie Loubser (JL) ▪ Robert Fortuin (RF) ▪ Udiv Budhal (UB) ▪ BP Mnguni (BM) ▪ Nomsa Thabethe (NT) ▪ Anel Hietbrink (AH) ▪ Leila Mahomed-Weideman (LM) ▪ Faizel Mulla (FM) ▪ Kevin Chetty (KC) ▪ Mpati Makoa (MM2) ▪ David Mahuma (DM1) ▪ Douglas Phakula (DP2) ▪ Dumisani Mthiyane (DM2)	▪ Vusimuzi Zwane (VZ) ▪ Fhumulani Nenzhelele (FN) ▪ Adrian Strydom (AS1) ▪ Rudi Hiestermann (RH) ▪ Thomas Shaw (TS) ▪ Fahiema Daniels (FD) ▪ Tsamaelo Malebu (TM) ▪ Chris van Rensburg (CvR) ▪ Viwe Biyana (VB) ▪ Graham Taylor (GT) – connected via Video Conference ▪ Sandisiwe Ncemane (SN1) - connected via Video Conference ▪ Andrea Shirley (AS2) - connected via Video Conference ▪ Percy Langa (PL) ▪ Ngqondi Nxokwana (NN) ▪ Jayshree Govender (JG) ▪ Willie Croucamp (WC) ▪ Jan De Wind (JdW) ▪ Nokukhanya Khumalo (NK)
Signed Attendance Register	Included as Appendix A		

1. Purpose of Meeting and Agenda

In order to introduce the proposed Gas Pipeline corridors and the Strategic Environmental Assessment (SEA) to industry stakeholders, government departments and Non-Government Organisations, and research institutions, an Expert Reference Group (ERG) meeting was held on 13 September 2017 at the CSIR offices in Pretoria. The meeting was chaired by Mrs. Dee Fischer (DF) from the Department of Environmental Affairs (DEA). Presentations were delivered by the DEA, iGas, CSIR and SANBI. The meeting agenda is indicated in the table below.

TIME	ACTIVITY/PRESENTATION	PRESENTER
13:00 - 13:15	Welcome and introductions	DEA
13:15 - 13:45	Background on the Phased Gas Pipeline Network Corridors	iGas
13:45 - 14:15	Introduction to the SEA Process and Proposed Methodology	CSIR and SANBI
14:15 - 15:00	Environmental and Engineering Mapping	SANBI
15:00 - 15:10	Way Forward and Closure	DEA

2. Presentation 1: Welcome and Introductions

SM welcomed all attendees to the ERG meeting and undertook introductions.

Discussion from the Presentation:
SM explained that deliverables and information about the project will also be made available on the project website: https://gasnetwork.csir.co.za.

3. Presentation 2: Background on the Phased Gas Pipeline Network Corridors

TD provided a presentation on the background of the gas pipelines and corridors.

Discussion from the Presentation:

Comments or Questions Raised	Answers
SN1: On the phased gas pipelines inception map, it showed three corridors linking the Karoo regions to hubs, how is that reflected in the corridor map? SN1: Instead of the three legs shown on the phased gas pipelines inception map, you have consolidated it into one corridor?	TD: This is going to be discussed further in a separate presentation during the meeting, but there is an understanding of the need to access the shale gas, and therefore incorporating it into the SEA going forward. This is reflected as a single corridor which links the central Karoo to Port Elizabeth and Mossel Bay. TD: At this point yes, this corridor is emanating from the shale gas sweet spot, however in the Project Steering Committee (PSC) meeting held earlier, there was a discussion with regards to moving or incorporating other areas where its believed there will be a shale gas found and these will be looked into.

Comments or Questions Raised	Answers
SN1: Perhaps the CSIR will present how the corridors incorporate what is reflected in the phased pipeline inception map.	TD: You must also keep in mind that the shale gas corridor was not included in the original mandate of the SEA; however it will be taken into consideration going forward. Note from CSIR: The need for the inclusion of a corridor from the Shale Gas SEA Assessment Area and Sweet Spot was discussed during the 9 June 2017 focus group meeting with the Project Partners, Coega IDZ, Richards Bay IDZ, Saldanha Bay IDZ and the Department of Trade and Industry. It was confirmed by the Project Partners that the corridor for Shale Gas would extend from the Sweet Spot to Mossel Bay and Port Elizabeth only (and not to Saldanha Bay) as the more immediate need is for a route to Mossel Bay where the market already exists.
JG: Why was the shale gas not confirmed at the start of the project? JG: Are you still looking at the offshore possibilities?	MS: The reason it was not considered is because this project comes from the Operation Phakisa Blue Economy which looks at developing industries around the ocean in line with offshore exploration, so shale gas was excluded. TD: The specific mandate of this project was to explore offshore oil and gas. TD: No, the drivers have changed to only onshore distribution. FM: Offshore gas was in the Operation Phakisa Programme as gas needs a market to be sent out. This is why onshore pipelines were introduced, to generate demand and a market for the gas. KP: Just to qualify that last comment, the pipeline project in Northern Mozambique is floating LNG which gets shipped out to Asian markets. That is another option but it is very expensive and unaffordable to us.
KP: Since the parameters have changed, have you looked at any corridors tapping into gas reserves of other countries, i.e. Mozambique Gas and Botswana in terms of Methane?	TD: The Phase 4 corridor does not only look at Southern Mozambique gas, but also gas coming all the way from the Northern side (Rovuma Basin). We can only assess what is in South Africa. DF: We have thought of engaging Mozambique at a political level to determine if the corridors can be extended, but that would only be some time in the future.
DM2: Just for clarity, is this development of iGas or did it come about in partnership with private industry as well? DM2: NERSA issues licences to developers with a plan to develop a gas pipeline. What process will need to be followed if a developer approaches NERSA and has all the necessary information to get a permit and the location for their pipeline falls within the corridors? What will happen with the SoEs?	TD: No, this is a development by iGas. It is a development to support gas infrastructure growth and development in South Africa. DF: To add, this ERG meeting has been set up to obtain inputs from industry, sectors, government departments, non-government organisations and research institutions, as they have different perspectives. DF: Within the corridors, there are no restrictions as to who can develop a pipeline. The SEA will only highlight the preferable areas they should construct the pipeline in. This would then be set out in the Integrated Development Plan (IDP) or other means which can guide the issuance of permits. We are working at a strategic corridor level for the proposed pipelines. TD: We are not restricting development of pipelines by any other developers within the corridors. The inception of the gas pipelines and corridors are being presented here, not the potential to restrict compatible developments.
AS1: Are we starting to factor in the skills requirements needed for this project? We would need a lead time to avoid not having important skills.	DF: This SEA Process is only considering the environmental factors associated with the 100km wide proposed corridors. Other aspects, such as skills development, would fall into place at a later stage.

Comments or Questions Raised	Answers
DM1: The corridors look about 120 km wide. Is there any specific reason for such a wide span?	DF: We are assessing100km wide corridors so there would be enough options. We are also not buying up any servitudes, we are just considering the environmental and engineering sensitivities within the 100 km wide corridors. We did not want to make the corridors that will be assessed too small in order to avoid developers purchasing these small areas and increasing the prices.
NK: There is an inland SEA on shale gas, so why are there no pipelines coming from those areas that were assessed?	TD: There is a corridor that extends from the Shale Gas Sweet Spot area to Mossel Bay and Port Elizabeth, however this is not considered to be the final corridor as discussed at the earlier PSC meeting. We may still need to ensure that all apparent sweet spots are covered and incorporated into this SEA. Note from the CSIR: Refer to the explanation above regarding the Shale Gas SEA.
RH: In relation to the wideness of the corridors, have you calculated the length of the corridors because it is massive?	DF: It does not really matter, we are just assessing the corridors for their suitability towards the construction of a pipeline. It does not restrict anything. We will need to integrate these corridors into the Spatial Development Frameworks (SDFs) of municipalities to potentially highlight any incompatible land uses, but there is currently no way of enforcing that.
RH: In some cases, these corridors would intersect infrastructure like transport systems?	TD: Yes they do, some of them follow roads. As discussed previously, the corridors do not stop development, they are just being assessed for suitability and sensitivity.
RH: One of the points raised was that the corridors were underpinned by business cases. Are you going to share those business cases? From our experience that may be optimistic. RH: For pipelines to work you need anchor tenants, South Africa's industrial base already gets gas, i.e. the large industrial customers. This leaves us with the Mossel Bay refinery and maybe looking at replacing coal electricity plants with gas.	TD: We need to look at the relevant business cases. These will be looked at by iGas, in parallel to the SEA. TD: There are on-going studies to solidify the market case of the gas pipeline, finding out what potential is there and what is the demand. DF: We are undertaking strategic planning so that the pre-assessment of the corridors would have been finalised regardless of the business case.
JB Will all the pipelines be underground like the oil pipelines or will it be different and have some parts of it above ground?	TD: Most of the pipelines will be underground. DF: There may be some supporting infrastructure which would be above ground. Please be aware that there are also extensions to the Electricity Grid Infrastructure SEA which is included in this project.

4. Presentation 3: Introduction to the SEA Process

AW and FD provided a presentation on the SEA Process and proposed methodology.

Discussion from the Presentation:

Comments or Questions Raised	Answers
RH: I do not see any mention of the Department of Mineral Resources? There is an ongoing issue with	AW & FD: Mining rights are a layer in the environment and engineering constraints mapping, which includes prospective, existing, closed and active mining rights.

Comments or Questions Raised	Answers
our current pipelines where mining rights are issued over pipeline servitudes. RH: This then becomes a policy issue, where you can have a policy stating that the Department of Mineral Resources cannot issue mining rights over what could potentially be critical infrastructure.	DF: The information might however not always be up to date. DF: We can take this discussion up with what is an incompatible land use so that those do not have impacts on the corridors.
ES: The Northern Cape developed the updated CBA (Critical Biodiversity Area) map that would need to be used as well as the Spatial Strategy map which is new. There are also biodiversity off-set areas in negotiation in some corridor areas. We have challenges when these zones and corridors are communicated to the public and we will need to explicitly stipulate that the corridors do not exempt developers from any other permits or departmental licenses. This SEA process only streamlines the environmental authorisation process.	FD: We already have all the datasets except for the offset areas. MM2: SANRAL can also provide the information relating to off-set areas.
TS: One of the first phases of the Phase gas pipeline network was getting the gas to the Ankerlig power station, given that we are no longer constrained in electricity generation, how relevant is that still? TS: The order is not necessarily important?	DF: We are undertaking strategic planning, regardless of what happens to the demand and the rise and fall of gas. If we only start planning once everything has been decided, we will lose a significant amount of time doing this from scratch. We are supporting the Strategic Infrastructure Project (SIP) programmes and government priorities. This will become a priority at some stage in future, and we are doing forward planning. DF: This project will look at all the phases in one go and gazette all corridors. Then it is up to businesses to assess the viability of a project.
AS1: In one of the slides you included skills development as a continuous line. I am cautioning that this is not omitted, as we need to do some curriculum work and planning before training, and this needs to happen before development happens.	AW: The skills development aspect as shown in the slides is referring to the skills development of Samukele Ngema (Project Intern) and improving his skills on the SEA process. DF: In the process of SEAs, there are also lectures held at universities, to increase skills and involve students.
PL: The Ngonyama Trust, Traditional Authorities, Farmers Associations, Ezemvelo KZN Wildlife and KZN DWS should be added to the list of stakeholders. It is proposed that as part of the SEA Process, you have a meeting in Richards Bay, where there are two key regions i.e. Zululand and King Cetshwayo District Municipalities, and there are three corridors merging there. The King Cetshwayo District Municipality is currently going through an Environmental Management Framework (EMF) process and the SEA Project Team should contact the consultants. The	AW: Noted. We are planning to meet with the Port of Richards Bay (Transnet) and the relevant District and Local Municipality (i.e. City of UMhlathuze and King Cetshwayo). We are also planning a public meeting in Durban or Richard Bay as well as focus group meetings with District and Local Municipalities. DF: We have also decided that before we go to any local municipalities, we go through the provincial governments.

Comments or Questions Raised	Answers
Department of Cooperative Governance and Traditional Affairs (COGTA) is also going through a special corridor planning exercise in the area from Tugela to Vryheid.	
CP: If the electricity supply and energy supply are not connected to this SEA, what process are you trying to speed up? My impression is that whatever is done at a strategic level still goes through an Environmental Impact Assessment (EIA) process at a local level in any case (in terms of development proposals that trigger the need for an EIA). What is the link between the EIA and the SEA on the ground? CP: That is the punchline, you can side-step compliance regulation requirements if you are in the corridors.	DF: We want to apply the avoidance hierarchy as one of the key principles of environmental management. This process identifies areas of High, Medium and Low sensitivities, and it is the desirable aim for all pipelines to go through areas of low sensitivity. CSIR will develop a norm or standard, in close collaboration with the project partners, for the construction of gas pipelines in areas of low environmental sensitivity. The construction of this infrastructure will then be managed through this norm or standard and be excluded from the requirement to obtain an environmental authorisation. There will also be a Pre-Construction Site Specific Protocol and/or Checklist for development within areas of medium, high and very high sensitivity– an EA will be required and the protocol and/or checklist will determine the level of assessment required. DF: A developer will still be required to do verification. The department is developing a screening tool that will need to be used by any developer who will then have to provide a screening report. If a developer wants to develop in a specific area, they have to confirm the area sensitivity through the screening tool We also are looking to bring DWS on board to potentially obtain general authorisation for certain parts of the corridor where the gas infrastructure is not a high risk for them.

5. Presentation 4: Environmental and Engineering Mapping

FD provided a presentation on the environmental and engineering mapping process.

Discussion from the Presentation:

Comments or Questions Raised	Answers
JG: It would be good to include the SANParks expansion footprint programme in the sensitivity layer to assess where the proposed corridors would be in relation to these. This would have an impact on our parks expansion. We could give you the data and use that as the buffer instead of the proposed 10km buffer. JG: The 10km buffer is not necessarily the best measure around natural parks as we take into consideration other constraints as well.	FD: That would be good because it would be the areas which are highly sensitive as compared to the current 10km buffers. DF: Once you have done the digging of the pipelines and rehabilitated the land, in some areas it will not be an issue. So if the pipeline is within the buffer and the proposed expansion area, the land could be rehabilitated? Although it is in the buffer, it is not a high sensitivity. FD: No it would not be high sensitivity.
DF: Going through thicket is a high sensitivity as its rehabilitation would take a very long time. Will we look at how we make a provision for that?	FD: With the Electricity Grid Infrastructure SEA, there were a number of rounds for defining the environmental sensitivities, this is just the first cut and it will be better refined as the SEA Process progresses.

Comments or Questions Raised	Answers
RH: You need accessibility to the pipelines for inspections and maintenance purposes, so you have to maintain a clear path. FD: Is this for areas outside of the 10km buffer zones? AW: Can you let other vegetation grow on top, which have shallow roots?	AW: We have started the engineering constraints mapping process and these issues were brought up. These clearance requirements need to be confirmed with the project partners. RH: No, for all areas of the pipeline. You always need access to the pipelines. RH: You do not really want any deep rooted plants and you also just need access for inspections.
PL: With regards to the different ratings for commercial and natural forestry, we must be careful how we rate commercial forestry because if you consider it in terms of economic criteria, it would change a lot. Maybe you should consult people from SA Forestry.	FD: We are still in the process of consultation, and we were looking at environmental related impacts associated with the development of gas pipelines and Electricity Grid Infrastructure. Commercial forestry will not have a high sensitivity as servitudes can be negotiated with the companies. These would form part of the engineering constraints due to the high prices.
NK: I would also suggest you speak to the provincial Heritage authorities because they have their own provincial bodies which have their own legislation and protocols.	FD: We had good engagements in our previous SEA with the provincial authorities for Heritage.
CP: The socio-economic indicators you have listed seem to be more social than economic. What do you envisage from an economic perspective going forward? CP: What about agricultural workers? CP: In the renewables SEA, there was an emphasis on the socio-economic development, enterprise development and localisation within a 50km radius. For this SEA you are looking at socio-economic indicators, can you please clarify what those indicators are? CP: Are you not doing financial feasibility as part of this SEA? CP: So at this point in time, anything is possible as long as it complies with the environmental sensitivities?	FD: It would be more looking at industry and the impacts. FD: We are not really looking at that in this SEA. DF: This would be in the protocols. For example if you are in high agricultural potential area, you would trigger a study to assess what impacts the pipeline has caused, what you have lost in yield and revenue. It does not specifically look at people. FD: A lot of that information would not be spatial, so I am not sure if it is part of this SEA. DF: It would not come from this process, as those are criteria which result from the IDP and the actual tender process of laying the gas pipelines. FD: The financial aspect is looking at the engineering constraints, which is looking at what extra cost will be incurred while trying to overcome engineering constraints. DF: Any proposed development will have to consider the environmental sensitivities and engineering constraints assessed within these proposed corridors.
TB: Looking at the maps right now, they look very red, is this just the first level and will there be improvements?	DF: This is more of an exclusion map, and this is as bad as it gets. FD: Following the specialist studies, sensitivities may be changed by the specialists based on their expert knowledge.

Comments or Questions Raised	Answers
AM2: Eskom will need to replace their power stations. Within the corridors, there are not enough infrastructure in the coastal areas to allow for power station replacement to occur. As a thought for grid planning, have you taken into account the possibility of the corridors going to the current Eskom power stations as a strategic move for the future? so that when they are replaced with gas assets, the infrastructure is already there and ready?	FD: We did not speak much about the development of electricity infrastructure in this SEA as a dedicated SEA process has recently be undertaken for that. During that process, Eskom took into account all possible energy scenarios, including gas power stations. These corridors are only the proposed corridors for gas and extensions to the Electricity Grid Infrastructure SEA. DF: I understand you as enquiring whether we should not have a corridor to the north where we have the power generation happening now. We have not done that. We can talk to Eskom about that, we would need to plot the current power stations and see if they align with the Electricity Grid Infrastructure SEA Corridors and the gas corridors in some way. TB: Maybe this is something to be taken up with Eskom (Power Planning). They would give an appropriate response.
DM1: With regards to the composition of the group, I do not see any representatives of the legal team according to Section 25 of the Constitution, for instances where there would be expropriation in the process down the line.	DF: Our mandate stops at just proposing the corridors and that would also only come in at a later stage.
DM2: How far have you considered gas and electricity sharing a corridor when it comes to engineering because the two affect maintenance costs and the lifespan of specifically the gas pipeline? VZ: Before we issue a construction license for both gas and electricity we usually look at the EIA report. I heard about the screening process which might speed up the issuing of authorisation. We will be concerned if that screening process is not done thoroughly because it will impact our decision to issue a license to construct and impact the cost of providing gas.	FD: Where the gas and electricity corridors overlap, we want to assess them together and ensure there is enough space for the two of them keeping in mind they have to remain 5-10km away from each other. DF: We will not be taking short cuts, our mandate is very clear and covers such aspects, but institutions like banks, who have relied on EIAs will need to start changing their reliance on those documents. Where you apply a standard within an area of low sensitivity, you will not have an EIA. You will have an equivalent process but not an Environmental Authorisation (EA). On the one side you have developers complaining about the environmental handbrake, and on the other side you have banks requesting EAs to avoid risks.
JA: This SEA is coming out of the oil and gas lab of the Operation Phakisa. There were questions around skills development and socio-economic impacts and localisation. I am assuming that the SEA is one work stream. There will be a skills work stream within the oil and gas lab which would answer the questions which were not related to the SEA identifying the corridors. DF: Do they have what we have (i.e. where you can call the consultants and get involved in the process)? Who could we contact for that?	DF: Yes there are other parallel work streams which deal with skills. I am not clear on the scope of their work. We could put a link on the gas network website, to the other work streams related to the Operation Phakisa and contact details. RT: There is an Operation Phakisa website which details the other work streams. It has the 11 different work streams. Mr Bonga oversees the Operation Phakisa so you could contact him.

6. Way Forward and Closure

DF: There are four ERG meetings in total, and we are considering collapsing it into the earlier PSC meeting. We will engage with you for other meetings where you might be contacted as a specific sector meetings. We will only get back to you when we have something to discuss. We will finalise the corridors now. The next steps are to finalise the environmental work and get the specialist studies done.

AW: If you have any other inputs or comments, do not hesitate to send an email to the project team (gasnetwork@csir.co.za) at any time

DF: You can also register as a stakeholder on the website and ask any questions you might have (https://gasnetwork.csir.co.za)

AW: After this meeting, the notes of the meeting, presentations and Terms of Reference for the PSC and ERG meeting will be distributed to all members accordingly.

A.7.8.2 Notes of ERG Meeting 2 – 31 July 2018

Meeting:	PSC and ERG Meeting 2		
Date of Meeting:	31 July 2018		
Venue of Meeting:	Council for Scientific and Industrial Research (CSIR) Pretoria Campus, Meiring Naude Road, Brummeria, Pretoria: Knowledge Commons – Ulwazi Auditorium		
Duration:	09H45 o 14H00		
Attendees:	▪ Dee Fischer (DF) ▪ Simon Moganetsi (SM) ▪ Sujata Carlyle (SC) ▪ Thembi Hlatshwayo (TH) ▪ Alfred Mocheko (AM) ▪ Sabelo Malaza (SM1) ▪ Milicent Solomons (MS) ▪ Stanley Tshitwamulomoni (ST) ▪ Vincent Chauke (VC) ▪ Tobile Bokwe (TB) ▪ Ronald Marais (RM) ▪ Mapaseka Lukhele (ML) ▪ Imran Karim (IK) ▪ Shiven Panday (SP) ▪ Neville Ephraim (NE) ▪ Annick Walsdorff (AW) ▪ Rohaida Abed (RA) ▪ Babalwa Mqokeli (BM)	▪ Fahiema Daniels (FD) ▪ Tsamaelo Malebu (TM) ▪ Somila Xosa (SX) ▪ Nomathemba Mazwi (NM) ▪ Dr. Garry Paterson (GP) ▪ Ajay Trikam (AT) ▪ Lethola Mokakala (LM) ▪ Laurentius Saville (LS) ▪ Paul Hoffman (PH) ▪ Shaazia Bhailall (SB) ▪ Mlamleli Maqokolo (MM) ▪ Robert Fortuin (RF) ▪ Nozipho Maduse (NM1) ▪ Anel Hietbrink (AH) ▪ Gerard Mac Carron (GMcC) ▪ Rian Botes (RB) ▪ Rirhandzu Ntusi (RN) ▪ Nomsa Thabethe (NT) ▪ Jannie Loubser (JL) ▪ Dr. Ragna Redelstorff (RR) – Joined via Video Conference (VC)	▪ Nokukhanya Khumalo (NK1) – Joined via VC ▪ Dumisani Mthiyane (DM) ▪ Fhumulani Nenzhelele (FN) ▪ Niall Kramer (NK) ▪ Hilton Lazarus (HL) ▪ Laura Peinke (LP) ▪ Percy Langa (PL) – Joined via VC ▪ Kate MacEwan (KMcE) – Joined via VC ▪ Dr. Jaap Smit (JS) ▪ Willie Croucamp (WC) ▪ Andre Spies (AS)
Signed Attendance Register	Included as Appendix A (which includes Apologies)		

1. Purpose of Meeting and Agenda

In order to provide a progress update, and to discuss the Draft Pinch Point Analysis undertaken by the South African National Biodiversity Institute (SANBI) as part of the Strategic Environmental Assessment (SEA), and the preliminary results of the draft Specialist Studies undertaken to date, a Project Steering Committee (PSC) and Expert Reference Group (ERG) meeting was held on 31 July 2018 at the Council for Scientific and Industrial Research (CSIR) offices in Pretoria. The meeting was chaired by Mrs. Dee Fischer (DF) from the Department of Environmental Affairs (DEA). Presentations were delivered by the CSIR and SANBI. The meeting agenda is indicated in the table below.

TIME	ACTIVITY/PRESENTATION	PRESENTER
09:45 – 10:00	Tea and Registration	All
10:00 – 10:10	Welcome and Introductions	DEA
10:10 – 10:20	Background on the Phased Gas Pipeline Network and Expanded EGI Corridors	CSIR
10:20 – 11:00	Pinch Point Analysis	SANBI
11:00 – 11:30	Biodiversity Assessment (Terrestrial and Aquatic Ecology)	CSIR
11:30 - 11:45	Break	All
11:45 – 12:15	Biodiversity Assessment (Terrestrial and Aquatic Ecology)	CSIR
12:15 – 12:45	Discussion	All
12:45 – 13:15	Seismicity Assessment, Visual Impact Assessment and Social, Planning and Disaster Management Assessment	CSIR
13:15 – 13:30	Discussion, Way Forward and Closing	All
13.30 – 14.00	Lunch	All

2. Welcome and Introductions

DF welcomed all attendees to the PSC and ERG meeting and provided background on agenda.

3. Presentation 1: Background on the Phased Gas Pipeline Network and Expanded EGI Corridors

AW undertook introductions, discussed the proceeding of the meeting and provided a brief background on the project.

4. Presentation 2: Pinch Point Analysis Process

TM provided a presentation on the approach to the Pinch Point Analysis, as well as the findings of the draft analysis that was undertaken subsequent to the commencement of the specialist studies. The following questions were raised and responded to.

Comments or Questions Raised	Responses
NK: Has there been interaction with the Mozambique Authorities regarding potential pipeline routing, particularly for the Phase 4 corridor? Regarding the Renaissance Pipeline, which is from the north of Mozambique, have there been any discussions for potential synergies for pipeline routing? Was the option for doing nothing (i.e. not constructing) taken into consideration for the Least Cost Path Analysis for the Gas Pipeline?	DF: There have not been engagements thus far with other governments outside of South Africa, as the SEA is focused nationally and including other governments as partners to the SEA Process would require extensive engagement. However, there have been discussions from the pipeline point of view and NE will provide more detail. NE: There were no discussions with the Mozambican Government regarding Phase 4 (from Richards Bay to southern border of Mozambique) for the purpose of the SEA. However, outside of the SEA, the project partners are in discussion with the Mozambican

Comments or Questions Raised	Responses
	Government regarding the Renaissance Pipeline. The Virtual Pipeline is always the first phase of starting a gas pipeline project in terms of building a demand, it is not part of the SEA but certainly part of the background in the planning. DF: SIP Programmes are looking at strategic infrastructure, involving long term consideration to be taken forward in terms of future planning. That is the rationale for the planning we are undertaking to determine areas that can be used and those that cannot be used. Note from the CSIR: The SEA Process assesses the suitability of the corridors for gas pipeline and EGI development. The LCP will look at the best options for the developing the pipeline and EGI from an environmental, engineering and cost perspective. The option of not constructing will need to be looked at on a project specific basis in terms of whether there is demand and a source of gas.
AT: In the Pinch Point Analysis, is there specific reasoning for the use of the highest sensitivity only?	TM: In the Pinch Point Analysis, all areas allocated with a Very High sensitivity (such as Protected Areas), which is the highest level of sensitivity in the four-tier system, were grouped together to form one Very High sensitivity layer for mapping purposes. These Very High sensitivity areas are those that will influence the location of the corridors and potentially the design of the EGI and gas pipeline, and therefore needed to be earmarked as areas to avoid when undertaking the pinch point analysis. The rest of the sensitivity levels ranging from high to low were grouped into a single layer referenced as “remaining areas” for purposes of the pinch point analysis. However, the remaining categories in the four tier mapping were used in other parts of the assessment (i.e. specialist assessment), and it is only in the Pinch Point Analysis where the top category was considered. DF: Considering the Very High sensitivity areas in the Pinch Point Analysis was also undertaken to identify “push factors” and to mask out exclusions.
PH: Will the presentations be shared with the attendees? PH: I would like more information on the reasoning behind the routing of the corridors, specifically in proximity to the Eden District Municipal area. Please share this information following the meeting.	DF: Yes they will be shared and sent via email, as well as be available on the project website. DF: Information is available on the project website and the project team will contact you directly in this regard. Another source of information for the area would be the Shale Gas website, and the project team will share the details with you.

5. Presentation 3: Biodiversity Assessment (Terrestrial and Aquatic Ecology)

FD provided a background on the findings of the first draft specialist studies completed for the Biodiversity Assessments (including Bats and Avifauna). The following questions were raised and responded to.

Comments or Questions Raised	Responses
NE: How are the gaps in knowledge going to be addressed?	DF: Addressing these gaps in knowledge could include commissioning research at tertiary institutions to look at some of the knowledge gaps and address these as Research Topics, which could potentially be funded by Operation Phakisa, Eskom, Transnet or other institutions. These studies could be some of the outcomes of the SEA; however it is currently not part of the scope of work. This will be discussed further at the end of this presentation.
NK: Are there details on how trade-offs are made in the assessment? For example, the Kruger National Park would be considered highly sensitive and the first option would be to avoid. However, in consideration of resource requirements and services existing in an area such as Kruger, including electricity, and roads, was there any detailed understanding on what the construction of a gas pipeline would entail?	DF: This is the reason a negative mask is done, with the first option being to exclude, and thereafter undertake the pinch point analysis to determine if one can still manage to obtain at least five pipeline or EGI routings without going into the exclusion areas. There will also be mitigation measures that can be considered such as looking into engineering solutions. FD: The pinch point analysis is undertaken to identify those areas of very high sensitivity and try to find options for the pipeline and EGI routing. If these areas still need to be traversed then there is knowledge on the environmental features and recommended measures.
TB: How are we dealing with the gaps in terms of the assessment going forward? Are we assuming the precautionary principle or that they are not a risk?	FD: In terms of assigning the assessments, the precautionary approach has been used. The Specialist Assessments have identified these gaps in knowledge and would potentially identify areas where, for example, rare or threatened species may be found. We are following the precautionary approach for what is known and some of these gaps would be addressed in the Standards. DF: It is important to note that the assessments would not surpass a walk-through on site (once a project is realised). It will be flagged and then identified as an area to be avoided, if necessary.
SB: Has the engineering solutions taken place yet? This would be an important step to try and avoid sensitive areas and minimise disruptions through engineering solutions. SB: Is environmental change over the next 10 years considered? What is a priority now might not be a priority later. SB: A consideration for climate change models could be incorporated.	DF: Engineering solutions at this point would be for example, to avoid, go under or over. There are no plans to build the gas pipeline anytime soon, and over time there would be different engineering technology and therefore the SEA cannot prescribe engineering solutions or technology at this point. From an environmental point, we are alerting towards sensitivity of an area or features, and therefore should avoid and if avoidance is not possible, an engineering solution needs to be determined, or other mitigation measures should be adopted, or off-setting should take place. DF and FD: Climate change impacts have not been looked at specifically or in detail in this SEA.

Comments or Questions Raised	Responses
	FD: Critical Biodiversity Areas (CBAs) (by way of conservation planning) do take climate change mitigation and adaptation into account. Climate change attributes are built into the sensitivity features within the corridors (such as CBAs), as it is not as easy to make predictions on habitat loss. The protocol remains the same for such areas in the assessment. FD: The climate change models indicate prediction shifts for example the location of the biome, and that is why we assess impacts on the biome regardless of where the biome would be located in future. The protocol would remain. AW: If an area that is not a CBA now and is a CBA in 5/10 years' time, the impact being assessed on a CBA, for example, would remain the same and the recommended measures would also remain the same. Various impacts of the pipeline and EGI corridors on the various sensitivity areas have been assessed, including mitigation measures, therefore allowing application of these should these areas change. It is also important to re-iterate that some form of ground truthing will take place once a project is realised in order to account for the change in environment over time.
PH: A walk-through is essential. Has contact been made with the relevant people, particularly for existing Biospheres, to provide notification of this assessment to possibly obtain knowledge of these areas? PH: Concern is regarding Conservancies and whether they are included in the knowledge sharing regarding this SEA. It would be great if they are considered during the SEA. PH: I can provide details for such Conservancies.	AW: During the first round of Public and Authority Meetings, a request was made to the Authorities to share the invitation with District Municipalities and Local Municipalities in order to involve them in the process and obtain any necessary information. We rely heavily on District Municipalities to share information with Local Municipalities on infrastructure planning occurring in the areas. FD: Conservancies will definitely be considered. The project has been introduced to the Biodiversity Planning Forum which hosts EWT, and Birdlife. Biodiversity Planners have been contacted and made aware of the project, including SANParks. AW: Some Conservancies have been contacted thus far and there is a need to contact more and invite them to the next public meetings regarding this SEA.
SP: Regarding the comment for engineering solutions for pipeline crossings, Horizontal Directional Drilling can be used to cross environmentally sensitive areas, and this has been used on Transnet's NMPP.	DF: The key of this SEA Process is that you know upfront regarding the sensitivities, and it becomes part of the planning design.
NE: Do the white areas in the corridors mean that there is no sensitivity?	FD: It could be a combination of areas that are irreversibly modified or transformed, have no environmental importance or sensitivity, or it could be part of a different biome. DF: In the sensitivity maps it would be green.
TB: The magnitude of these gaps in knowledge needs to be looked at towards the final product because of the inherent understanding that this is fast-tracking the permitting process. The weight of the gaps in knowledge has serious implications on the final product	FD: Agreed that it is not available from a research point of view. DF: The list of gaps in knowledge will be included in the presentation and discussed at the

Comments or Questions Raised	Responses
from the permitting point of view. Hoping that gaps in knowledge is a function of the information not being available from the research point of view and not that it is not provided. The significance of the gaps in knowledge must be remembered when it comes to the final product.	end.
NE: I am under the assumption that each estuary will be unique and that one study will need to be done for each estuary. Is this assumption correct?	FD: No, the estuary study included an assessment of all estuaries within the corridors. A consideration was made according to bioregion (i.e. those considered relatively similar in terms of estuarine types, whereby estuaries on the West Coast are similar etc.). AW: The main recommendation is to avoid estuaries for the gas pipeline development as a result of the issue of scouring at various depths (depending on flow) and the ephemeral nature of estuaries. A 1 km buffer from the coastline was implemented.
NK: Are we attempting to factor in population migration data?	AW: This will be answered in the next presentation.

DF went through the list of Gaps in Knowledge and those that could potentially be Research Topics, and indicated that the recommendation for research will be taken forward (however they do not currently form part of this SEA). Refer to the summary below

Gap in Knowledge	Way Forward
1. Limited info on root systems - Fynbos biome	Research question at tertiary institution.
2. Rehabilitation success - Fynbos (drier areas) and Albany Thicket	Research question at tertiary institution.
3. Extent and distribution of species of special concern - Albany Thicket, Savanna, Grassland, IOCB (faunal records) - Freshwater systems	Could be a research question at tertiary institution, but it could also be a done in a science or peer review form (similar to the Bioblitz in Shale Gas).
4. Population sizes of many Red Data species (birds)	This can be a broad research question, and EWT will be contacted to discuss the collision risk further.
5. Lack of data on physical processes (Estuaries)	If the EGI or Gas Pipeline needs to be routed close to an estuary then a specific estuarine assessment will need to be done at that stage (i.e. once a project has been realised).
6. Electromagnetic radiation flying bats; echolocation	This might be a gap outside the scope of this SEA.

6. Presentation 5: Seismicity Assessment, Visual Impact Assessment, and Social, Planning and Disaster Management Assessment

AW provided a presentation on the findings of the first draft specialist studies completed for the Seismicity Assessment, Visual Impact Assessment, and Social, Planning, and Disaster Management Assessment. The following questions were raised and responded to.

Comments or Questions Raised	Responses
Seismicity Assessment	
TB: How far back does the data used date, and how quickly does the field evolve over time? TB: I understand that the data takes a long time to be acquired, is there something that	AW: The data is quite old, dates far back. The understanding from seismicity experts is that it is something that needs to be re-looked at a local level as all active local faults have not been mapped yet.

Comments or Questions Raised	Responses
can be done in the meantime to obtain the relevant/recent data? The concern is recommending all the corridors and when it is time to build then we obtain the data thus delaying the project. The historical data is a concern, and the assessment phase is a perfect opportunity to raise these concerns and get this information.	AW: It could be a research topic and the Council for Geoscience should be looking at this research. DF: The Council for Geoscience should have this monitoring data, as they are doing Seismic monitoring across South Africa. We will get more information on this from the Council for Geoscience. Post-Meeting Note from the CSIR: The US Geological Survey defines it as: "a fault that is likely to have another earthquake sometime in the future. Faults are commonly considered to be active if they have moved one or more times in the last 10,000 years." To be useful for seismic hazard assessment, we need to know the dimensions of the fault rupture, the amount of slip on the fault, and the date(s) of fault slip. No historic events have produced a definite surface rupture (the crevasses that opened up after the 1809 Cape Town event could well be the result of lateral spreading induced by the earthquake shaking, and not the surface expression of the actual fault rupture). These data are difficult to gather for prehistoric events and only a few palaeoseismological studies have been conducted. The compilers of the "seismotectonic map for Africa" acknowledge these difficulties, and state "An assumption can be made that the occurrence of earthquakes on or near a fault implies late Quaternary activity of that fault." The Quaternary Period is from 2,580,000 year ago to 12,000 years ago. They do not define what they mean by 'late Quaternary', but this could easily be 10s or even 100s of thousands of years ago. So while it may give some idea of seismically-active zones, it does not really help to identify individual active faults. They are working on a continental scale (say 1:5,000,000), while we are working on a local scale (say 1:5,000).
RB: Has the assessment considered using abandoned mining lands, as there are a number of mining lands (including shallow mined areas) not being utilised in the City of Ekurhuleni? Has the assessment also considered the gas pipeline to make use of mining tunnels to route pipelines underground? It would be an alternative in avoiding the use of densely populated or protected areas, because in the City of Ekurhuleni, space is an issue due to urbanisation. We have maps of these mining areas within the City, and the Town Planning department can be consulted with.	DF: For the EGI SEA (2016), Eskom specifically wanted to move away from mining areas due to instability, and this was a push factor for EGI. TB: There is always a concern with regards to the use of mining areas because of stability concerns. DF: Mined areas are regarded as an engineering constraint. NE: Mining areas are push factors for gas pipelines due to instability and unknown conditions of these areas, and you want to avoid placing pipelines in tunnels as it would be a constraint when considering access for construction, and maintenance of the pipelines etc.
NK: A lot of research has gone into the assessment and that South Africa could easily accommodate gas pipelines as it is regarded as fairly stable land. This was also captured in the Shale Gas SEA. The SKA was located in South Africa because of the country's fairly	Note from the CSIR: Block valves will be installed 30 km apart along the pipeline, which are concrete boxes with an aboveground opening that leads to an inspection chamber. In the event of a leak, a specific section of the pipeline can be isolated by closing the block

Comments or Questions Raised	Responses
stable geology. The SEA has been consulting with the right experts, such as the Council for Geoscience and Professor Ray Durrheim. Gas pipeline development, from an engineering point of view, can be easily accommodated, and it is not something new from a seismicity perspective (for example gas pipelines are common in New Zealand). NK: In terms of risks flowing from a seismic rupture, the study refers to toxicity, and assuming it is what comes out of an eruption of a pipeline. Methane will displace oxygen leading to suffocation or it could ignite causing an explosion but it can be switched off.	valves. The remaining gas within the pipeline will then be vented off suitably.
PH: In terms of all the existing servitudes in the country (such as roads and railway lines), could these not be used as they most probably have been tested from a seismic perspective. That is use existing "corridor" servitudes as far as possible. It is also important to map some of the faults, such as the Tulbagh fault.	AW: Roads are being used as a pull factor, and we trying to remain as close as possible to roads. In identifying the least cost path analysis, existing roads will be a pull factor in terms of finding the best route for the pipeline. However the pipeline is not permitted within the road reserve. With regards to railway lines, a setback of 5 – 10 km is required from railway lines, because of potential corrosion with the pipeline.
WC: What is the source of the seismic map in the presentation? The reason for the question is that in the past 50 years the most severe earthquake experienced in the country was in Tulbagh and is not depicted in this map. Are most of the red areas on the map in Gauteng showing induced or natural events?	AW: The Seismicity specialist assessment was undertaken by Professor Raymond Durrheim and the Council for Geoscience. The Peak Ground Acceleration (PGA) map and study was undertaken by the Council for Geoscience in 2018 and the earthquake recording was considered. The map shown in the presentation represents the PGA modelled to anticipate and give an idea of where seismic activity could take place. The Gauteng region is focused on induced events due to mining. Post-Meeting Note from the CSIR: PGA is a quantity that is used by engineers to design structures. Regions where the risk is relatively high (but still quite low) are the mining districts in Gauteng, North West and Free State Provinces, where gold mining at depths approaching 4 km had induced three shallow earthquakes with M>5 that caused damage to surface structures.
DF: "Hanging" statements on pipeline recommendations needs to be relooked at and packaged correctly. We need to do away with uncertainties and have more certainty in the process, especially because seismicity is not an issue for SA. However because of the way the recommendation is written implies uncertainty. NE: The statement about the release of radioactive material needs to be relooked at as it could create some controversy. We need to be able to quantify natural radioactive material.	AW: Noted. The conclusion led to the understanding that the main issue is the induced earthquakes from mining as well. AW: A comment in this regard will be made on the Specialist study.
NK: Was it a predetermined scope that the gas pipeline must be underground, because they do not have to be?	AW: Yes, that was the provided scope of the project.
Visual Assessment	
TB: Concerned about consistent use of the word avoidance, and proposing that the specialists put forward an alternative should avoidance not being practical. In linear infrastructure, avoidance on its own is not practical. It would have been beneficial to add	AW: Those are the key management actions in the very high sensitivities presented here, there are other management actions provided in the report.

Comments or Questions Raised	Responses
other management actions.	RA: This is linked to the least cost path analysis; whereby all the specialist studies, findings and recommendations will be incorporated and weighted accordingly to find the best route. The information presented here is **only** for the Visual Assessment. DF: The SEA identifies levels of assessment if development is in areas of high sensitivity and proposes actions that could be taken in those areas. Careful consideration should be placed on wording as well for more practical measures.
RM: Commented on the possibility of possibly weighting the study area. For example the western part of the route has more green (low sensitivity) with a few areas of red (very high sensitivity), whereas the eastern side has more red in its entirety. Therefore the western area weighted in its entirety would have least impact cumulatively except in one area (with red) and would allow unlocking those potential least impact areas with reason.	AW: It is important to remember that these results depicted are only for visual and the process will include weighting of the different assessments, including biodiversity, aquatic, birds, bats etc. and formulate an overall sensitivity map. FD: That is the purpose of doing the Least Cost Path Analysis at a later stage as there is already information on where all the features of sensitivity are located, and what the required mitigation measures are.
NK and WC: Possibly change the wording to "minimise" impact instead of just avoid. Trade-offs could be identified.	Noted.
RB: Please explain the meaning of buffers to towns and villages. Does it mean that one cannot develop within a buffer zone in terms of the VIA?	AW: Buffers have been identified with various sensitivity ratings to guide development on less sensitive areas. For example, an area within 500 m of a town, village or settlement is rated as Very High sensitivity from a visual perspective. The further away the proposed EGI is constructed, the lower the sensitivity will be from a sensitive receptor/feature perspective. It does not mean that if the powerline or pipeline is constructed, a potential developer cannot build within 500 m of such infrastructure. It would just mean that they would be within the viewshed of the infrastructure (but would still be required to obtain any necessary approvals). DF: The buffers indicate flags, for example visual intrusion and trigger the level of assessment required. TM: The assessment also considers the Provincial and District Municipality Spatial Development Frameworks in order to consider planning within municipalities to align or incorporate into the assessment. RM: The reverse could also be achieved, whereby the SEA corridors are included in the SDFs. This will ensure that those constructing are aware of this routing in their planning.
SB: It is predetermined that the pipeline is underground. How are the engineering constraints taken into consideration? WC: How will river crossings be dealt with? NK: Gas pipelines above ground are globally accepted, cheaper, easier to inspect and safety elements are less. This can avoid some of the sensitive areas as well.	AW: The Least Cost Path and Pinch Point Analysis will assess engineering constraints. Post-Meeting Note from the CSIR: The gas pipeline will be underground, even when crossing water features (either by trenching, pipe jacking or HDD). DF: The issue is that it would require a new SEA as the impacts assessed would be different above ground.

Comments or Questions Raised	Responses
	NE: Most pipelines are underground. Areas in other countries where underground cannot be achieved then aboveground becomes an option. It is possible to route the line aboveground where it is essential for a few metres. However in this SEA, below ground lines are considered.
RM: What is the overall width of the servitude?	NE and AW: The right of way will be 30 – 50 m wide for the construction phase, and 10 m wide for the registered servitude during the operational phase.
Social, Planning and Disaster Management Assessment	
TB: Is the rating of high and low sensitivity based on perceived negotiation difficulties for land? TB: Is this correct when it is based on rules of fair engagement? TB: A culture and principle of responsible and fair engagement must be entrenched in the criteria of sensitivities in the social and planning assessment.	AW: Past experience has shown that in Traditional Authority areas it is usually more difficult to undertake negotiations and achieve agreement than in other areas. AW: The ratings are based on impacts prior to mitigation management actions. A situation perceived to be occurring by the Specialist.
TB: Flagging that the Disaster Management Plans could be talking to current plans (in terms of municipal IDPs) and not necessarily considering the proposed infrastructure in terms of this project and therefore recommendations speaking to their readiness might be underestimated.	Noted.
NK: It might be worthwhile linking up with the Operation Phakisa Incident Management Organisation based in the Western Cape and obtain information that could feed into this SEA.	Noted.
WC: What is the difference between the two slides showing disaster management capabilities?	AW: The one slide shows the District Municipality's disaster management capabilities, whereas the other slide shows that of the Local Municipality. For example, the capabilities of the District and Local Municipalities could in some cases not be aligned in terms of Disaster Management.
NE: On the slide showing the Incident Management Capability Map; the indication of fair in green and good in yellow needs to be re-looked. The legend must be verified.	DF: The comment is noted and would be checked upon.
General	
LS: We should identify research opportunities that exist and try to engage with Universities now, and share those topics now. SB: Agreed, and in some cases, maybe this research is already being undertaken.	DF: Point is taken and will be considered.
WC: Will the SEA Report be compiled at the end of Phase 2? WC: Will the report be made available before gazetting in Phase 3? WC: Will there be another ERG?	DF: Yes, but we are still far from completion of the SEA Report. We are currently at the Draft Specialist Assessment Phase. Post-Meeting Note from the CSIR: The Draft Specialist Studies will be made available for public review by October 2018. The gazetting process will also include a comment period. AW: Yes, we are planning to hold two more meetings, one to discuss the standards and one at the end of the process.

Comments or Questions Raised	Responses
TB: Do the project partners review the reports during the public outreach also?	AW: Partners are being sent the reports as they are completed for review now, prior to the public review.
NK: What does the Skills Development aspect of the SEA entail?	DF: This refers to skills development for the project team members.
NK: Please send a copy of the presentations delivered at the meeting.	Noted.
PL*: Will the specialists provide potential or indicative routes within the corridors? I think this information would be useful. Is this included in their Terms of Reference? * This question was submitted via text message by PL, who joined the meeting via VC.	Post-Meeting Note from the CSIR: The specialists will not provide or recommend potential gas pipeline and EGI routings within the corridors. This is not part of their scope of work. The specialists are only assessing the corridors for sensitivities to inform future route planning by the project developers. SANBI will undertake a Least Cost Path Analysis to identify the best routings from an environmental, engineering and cost perspective, and this will be provided directly to the Project Partners (i.e. the Departments of Environment, Energy, and Public Enterprises, and Eskom, iGas and Transnet). The results of the Least Cost Path Analysis will not be made available on a public platform.

Discussion, Way Forward and Closing

DF noted the following:

- Specialist studies would be sent to ERG and PSC for review in Mid-September
- Public and Authority Outreach Meetings to take place in September/October 2018
- PSC and ERG meeting following the Specialist Review and Public Outreach Meeting
- Work on finalising the SEA Document and discussing

The meeting was closed at 13:30.

A.7.8.3 Notes of ERG Meeting 3 – 4 July 2019

Meeting:	PSC and ERG Meeting 3	
Date of Meeting:	4 July 2019	
Venue of Meeting:	Council for Scientific and Industrial Research (CSIR) Pretoria Campus, Meiring Naude Road, Brummeria, Pretoria: Knowledge Commons – Ulwazi Auditorium	
Duration:	09H45 to 12H00	
Attendees:	▪ Dee Fischer (DF) ▪ Sipho Mokwana (SM) ▪ Neville Ephraim (NE) ▪ Koketso Maditsi (KM) ▪ Annick Walsdorff (AW) ▪ Rohaida Abed (RA) ▪ Fahiema Daniels (FD) ▪ Tsamaelo Malebu (TM1) ▪ Paul Hoffman/Chris Marais (PH/CM) ▪ Robert Fortuin (RF)	▪ Anel Hietbrink (AH) ▪ Rueben Mabelane (RM) ▪ Maswati Mduli (MM) ▪ Jannie Loubser (JL) ▪ Cobus van Rensburg (CVR) ▪ Anita Loots (AL) ▪ Niall Kramer (NK) ▪ Patle Mohajane (PM) ▪ Janse Rabie (JR) ▪ Tinyiko Masondo (TM2)
Apologies	▪ Zakariyyaa Oumar ▪ Stanley Tshitwamulomoni ▪ Rudzani Tshibalo ▪ Stella Mamogale ▪ Vincent Chauke ▪ Tobile Bokwe ▪ Koogendran Govender ▪ Saneshan Govender ▪ Ronald Marais ▪ Patrick Mulenga ▪ Shiven Panday	▪ Mohsin Seedat ▪ Frikkie Brooks (Retired) ▪ Laurentius Saville ▪ David Joubert ▪ Shaazia Bhailall ▪ Udiv Budhal ▪ Gerard Mac Carron ▪ Sandra Du Rand ▪ Hilton Lazarus ▪ Percy Langa ▪ Raquel Mazwi
Signed Attendance Register	Included as Appendix A (which includes Apologies)	

1. Purpose of Meeting and Agenda

In order to provide a progress update, as well as to present the findings of the draft final pinch point analysis and corridors, and to seek corresponding feedback from the Project Steering Committee (PSC) and Expert Reference Group (ERG), a PSC and ERG meeting was held on 4 July 2019 at the Council for Scientific and Industrial Research (CSIR) offices in Pretoria. Mrs. Dee Fischer (DF) from the Department of Environmental Affairs (DEA) chaired the meeting. Presentations were delivered by the CSIR and the South African National Biodiversity Institute (SANBI). The meeting agenda is indicated in the table below.

TIME	ACTIVITY/PRESENTATION	PRESENTER
09:45 – 10:00	Tea and Registration	All
10:00 – 10:10	Welcome and Introductions	DEA
10:10 – 10:45	Background and Progress on the SEA Process	CSIR
10:45 – 11:45	Pinch Point Analysis and Final Corridors	SANBI
11:45 – 12:00	Break	All
12:00 – 12:30	Pinch Point Analysis and Final Corridors (Continued)	SANBI
12:30 – 13:00	Discussion	All
13:00 – 13:30	Way Forward and Closing	All
13.30 – 14.00	Lunch	All

2. Welcome and Introductions

DF welcomed all attendees to the PSC and ERG meeting, provided background on the status of the SEA, and discussed the proceeding of the meeting. An induction video was also displayed prior to the commencement of the meeting.

3. Presentation 1: Background on the Phased Gas Pipeline Network and Expanded EGI Corridors

AW provided a brief background on the project, as well as a status update and a description of the key tasks remaining for completion. The following questions were raised and responded to.

Comments or Questions Raised	Responses
NK: When you received feedback on the SEA Process, Specialist Assessments and SEA Reports, did you only consider formal comments submitted to you or did you also consider other comments available. For example, there is a fair amount of (controversial) comment online?	DF: No, we did not consider comments that were not formally submitted to the SEA Project Team, such as those online.

4. Presentation 2: Final Pinch Point Analysis Process

FD provided a presentation on the Draft and Final Pinch Point Analyses for the Gas Pipeline and EGI Expansion Corridors. The following questions were raised and responded to.

Comments or Questions Raised	Responses
NK: I wish to congratulate the project team on the progress achieved on the SEA and the detailed work undertaken.	FD: Noted, with thanks.
NK: A regional Gas Utilisation Master Plan (GUMP) is being developed for South Africa,	NE: No, GUMP has not been considered in the location of the gas pipeline corridors or the

Comments or Questions Raised	Responses
Namibia, Mozambique and Botswana (SADC). Has the GUMP been considered in this SEA Process?	SEA Process as the document is in its very early stages of compilation. However, iGas is involved in the GUMP and have made contributions, and presented the SEA to the committee.
NK: In the Engineering Constraints, water stressed areas were listed as an engineering constraint. From what perspective is this a constraint, because pipelines have been built in the Sahara for example? Kindly provide additional clarification regarding this.	AW: We had a focus group meeting in February 2018 with Sasol, Business Unity of South Africa (BUSA) and the Energy Intensive Users Group (EIUG), and they recommended that water stressed areas should be considered as a constraint from a future industrial development perspective, and not in relation to the actual gas pipeline. If areas are water stressed and do not have sufficient water availability, then future industrial areas are not likely to be constructed within these areas. Industrial development is seen as a pull factor for the gas pipeline, and if areas are water stressed, then this could accordingly be seen as a constraint for gas pipeline development in such areas.
NK: It seems like the corridors are being routed away from mining areas. However, I believe that the coal mining areas (especially in the Free State) need to be considered as a pull factor due to the potential coal-bed methane.	NE: Mining areas are avoided from a pipeline safety perspective. In general, based on previous communications with open cast mining operators, they do not want any infrastructure in proximity to their operations, and they tend cover a large area and it involves a significant amount of demolition. In addition, underground mining leads to subsidence, sinking and sinkholes that cause problems for the pipeline. This occurred in the Rompco Pipeline project. Therefore, mining areas are avoided; however, it is still understood that they could present an opportunity in terms of coal-bed methane. DF: It is possible that the transmission line could be routed quite close to the mining area though.
NK: From the opportunities perspective, it is mentioned that the pipeline will go through the Karoo. The terminology used for the extraction of natural gas should not be mistaken for mining. The Gas Industry prefers not to be associated with mining for a number of reasons. For example, during the presentation, shale gas exploration in the Karoo was referred to as mining.	FD: We use mining as both a pull and push factor. Where the demand mapping exercise identified future planned mining areas, we wanted the corridors to be as close to these areas as possible, especially in relation to future gas extraction, such as shale gas. However, at the same time, we understand that the gas pipelines need to be routed away from existing mining areas (i.e. active or previously mined areas) due to the threat of instability. We need to re-look at the terminology we are using when referring to these different industries i.e. not to refer to gas extraction as mining. DF: Your point is noted in terms of the terminology used. For example, we will not refer to the shale gas operation as mining, but rather gas production.
NK: What kind of pipes have been considered in the SEA Process i.e. above ground, below ground or both? Have alternative options been considered such as cryogenic tanks either by road, rail or sea, which is the new thinking in terms of Virtual Pipelines. Virtual pipelines would impact on or influence the placement of actual pipelines.	NE: We have not considered virtual pipelines in the SEA Process. This SEA Process covers the construction of a physical transmission pipeline. Virtual pipelines are in our thinking but that will be a completely different process that uses existing infrastructure, such as road and rail. Our thinking is that virtual pipelines are needed to create a market, and once the market is exceeded and is large enough, then a physical pipeline would be needed.
NK: Why is the SKA listed as a sensitivity? Is it from a light or noise perspective, and mainly related to the construction phase of the gas pipeline (and not the operational phase)?	DF: It is mainly the impact of the construction phase of the gas pipeline and EGI on the SKA facility. FD: It should be noted that only one small potential telescope that has not been

Comments or Questions Raised	Responses
	constructed yet lies close to the corridors. The greater focus area of the SKA falls outside of the corridors.
NK: I take it that the buckets of risks or constraints were partially pre-determined and then as others emerged, those were added. However, I do not see any feedback on security. I realised this when you mentioned that if there is no space in an area for the gas pipeline due to pinch points, then there is a potential to consider moving it to another country. But without understanding what is happing in neighbouring countries, for example in Mozambique, it may result in a security issue especially because gas pipelines bring with it a lot of attention, and people can use this as leverage.	DF and FD: From a security perspective, the gas pipeline will be below ground. NE: The top of the pipeline will be about 1 m below ground for safety reasons, and pipeline markers will be placed every 1 km along the route above ground to inform surrounding land users of the pipeline position.
NK: I genuinely mean that you have done great work on this SEA. Is one of the next steps talking to relevant stakeholders from an economic and growth point of view? The Oil and Gas Industry legislation in the country seems to be coming together, and once it is legislated, the country needs to be ready to act on it. This SEA is a great step towards developing the required infrastructure. I really think that you should get it out there and present it to many more parties.	DF: With the first Renewable Energy Development Zones (REDZ) and EGI SEAs, we took the final corridors and zones to Cabinet when we were ready for a decision. If we took the Gas and EGI Expansion SEA to Cabinet now, it would only be for information, and Cabinet does not really prefer feedback just for information purposes and prefers information that they can make comment on. However, it is a possibility, because when the original REDZ and EGI SEAs were presented, there were many Ministers that saw the potential of the assessment in relation to their portfolios. There is a lot of potential to take the project to Cabinet. As a requirement from the Operation Phakisa lab, the SEA outcomes will need to be presented as a completed task to Operation Phakisa and the Inter-Ministerial Committee (IMC). We will also publish progress on the SEA in newspapers again but the uptake on this, based on previous experience, was not significant. We previously published articles in Engineering News and could potentially look into presenting feedback in Mining Weekly. NK: Those publications are very technical and industry specific and are aimed at stakeholders that are naturally interested. It is understandable that you would need to inform Cabinet and policy makers but if gets into publications that have a wider audience and reach a broader group of stakeholders, it creates a greater public pull and Politicians start putting a greater focus on it based on the amount of people that read these magazines. To me, this is more about economic opportunities and not just technicalities. DF: Maybe we could compile a Communications Strategy near the end of the SEA so that we can draw additional attention to it. Another aspect that needs to be undertaken is that the corridors, once gazetted, need to be incorporated into provincial and municipal Spatial Development Framework Plans (SDFs). Once the corridors are in the SDFs, then it is more likely to be considered in future planning. We are also discussing the potential to incorporate the corridors into the National SDF. These are the type of documents that future developers and planners look at, so it is important for the corridors to be considered within these.
AL: The issue of social facilitation and communications strategies are incredibly important because there are many mega projects that have been stopped by communities who feel that they were not consulted with early enough in the project. You have mentioned that a fairly comprehensive consultation process has been undertaken as part of the SEA but the	AW: There is no formal presentation on the way forward. The way forward indicated on the agenda was focused on a discussion. However, as indicated during the first presentation, Phase 3 of the SEA is focussed on the way forward in terms of the Decision-Making Tools and outputs of the SEA, which include the final corridors, protocols, minimum information

Comments or Questions Raised	Responses
Eastern Cape and KwaZulu-Natal areas are most likely going to be areas where the project may become unfeasible if the communities feel like you have not taken them seriously. How will this be taken into consideration, and will this be discussed in the way forward presentation? AL: From an industrial policy angle, what is the next step?	requirements, and inclusion of the corridors in national and provincial SDFs. DF: We have made a note of this valid point, but from an environmental mandate perspective, the DEA wants to streamline the environmental authorisation process to allow development to take place easily within the corridors while ensuring environmental protection. However, it was noticed on the REDZ and EGI SEAs that although the DEA intended to only protect the environment, anchor points for development were also being created. Therefore, it is important that we bring this to the attention of the Department of Science and Technology and Department of Trade and Industry to promote the work that we are doing.
AL: The issue of localisation and local benefits, whether it be job creation or provision of services to communities, is far more important for large-scale projects. We have seen based on experience at the Presidential Infrastructure Coordinating Committee (PICC) that big projects are put on hold because of these issues.	DF: In KZN, we did come across similar issues for the SEA. What was done in other areas was not sufficient for the communities in KZN. As a result, an additional Public Information Sharing Session was held on 13 June 2019 and we were required to translate summary documents in a second language and place them at selected libraries. This was not undertaken in other areas. One of the lessons learnt during the SEA Process is that executive summaries of the reports need to be translated to a second language and need to be easily accessible. One of the key points to remember and was potentially difficult for the stakeholders to understand is that we may not have a definite outcome in terms of project. A gas pipeline will only be constructed if there is a gas find and a guaranteed customer. The timeframe for this may range a number of years, and there is no guarantee that a pipeline may be built. However, once a project has been identified to take place, there will always be a requirement to engage and consult with stakeholders once a specific route has been identified. As part of the SEA, we are forming policy, so it is important for us to engage with stakeholders as much as we can. Therefore, the lessons taken forward to any further SEAs commissioned by the DEA is that we need to plan for and cost for the translation of executive summaries and placement of such documents in affected libraries. However, these are costs that need to be considered upfront, and it cannot be easily undertaken for this current Gas Pipeline and EGI Expansion SEA that is nearing completion. This is a good learning point for future SEAs.
NK: Have you consulted with any companies that specialise in pipeline equipment and development? NK: Their interest would have been more related to job creation and linking to the pipeline. However, I am referring to approaching companies not directly involved but would have expert capabilities. For example, Chevron is an international company that has developed pipelines in the US, Canada and Russia and they do not have any real interest in South	DF and NE: There were a few pipeline developers and stakeholders from the business community that attended Public Information Sharing Sessions to find out how the pipeline development would influence them. DF: That would be addressed during the project specific stage, once development is guaranteed. NE: This SEA is only the planning phase. The project will only be guaranteed when there is a supply of gas and an off-taker. Once these requirements are fulfilled, then the pipeline

Comments or Questions Raised	Responses
Africa, but they are real experts in terms of what one can and cannot do with regards to pipeline development, as well as future trends in the industry, such as plastics etc.	may be constructed. Until that stage, we are only planning. AW: At the project specific stage, there will also be the requirement to implement the Best Available Technology as well. DF: Yes, the use of Best Available Technology will also be included in tender specifications. NE: You mentioned the use of plastics, and HDPE is an emerging trend in gas pipelines. I have not come across its use in high-pressure transmission pipelines; however, it is definitely used in reticulation pipelines and in some cases distribution pipelines, which is up to 15 bar. Gas transmission is large diameter pipelines, with a pressure exceeding 15 bar up to 100 – 125 bar, and the technology for HDPE has not been identified yet.
NK: I understand that this SEA was framed against Operation Phakisa. Operation Phakisa is focused on offshore oil and gas exploration, yet the Gas Pipeline and EGI Expansion corridors are all onshore. None of these pipelines come from the offshore, for example on the West Coast, there are talks about the Ibhubesi Basin and offshore pipelines leading southwards towards Grotto Bay. Intuitively, it seems those should be linked to the thinking here.	NE: When the Phased Gas Pipeline Network was conceived, the aspiration was to drill 30 wells in the next 10 years. However, five years down line, only one well has been drilled. At the time, we stated that we believed that there is gas offshore based on the information provided by geologists and when the gas is found, we considered how we would get the gas to market. The SEA does not consider offshore pipelines because that is something that the Project Developer would do i.e. they would bring it onshore and from there take it to the market. This is what was considered as part of Operation Phakisa at the time. However, at the same time, we realise that we cannot work in a vacuum. We cannot only address offshore gas development. There are multiple sources of gas available for South Africa, such as indigenous gas that includes both onshore and offshore gas, including shale gas areas, which is covered in the SEA. There is also regional gas, and as part of the SEA we have considered imported gas via the Rompco pipeline corridor and the corridor extending to the southern border of Mozambique via KZN. In addition, the main LNG import ports are Richards Bay, Coega and Saldanha, and all of these ports are covered in the SEA. Therefore, there are multiple drivers for the SEA Process and there are multiple supply options.
JL: The Northern Cape Province and Transnet National Ports Authority are currently busy with planning a new deep water port, called Boegoebaai, about 20 km south of Alexander Bay. There is also a possibility of an SEZ surrounding the harbour. The harbour fits along the coastline section of Phase 6 of the Gas Pipeline SEA and Western Expanded EGI Corridor. I am not sure if the Kudu or Ibhubesi gas fields will influence this harbour.	NE: Thanks for informing us of this new harbour and potential SEZ, which will serve as a potential supply point. The Phase 6 corridor was initially moved away from the coastline due to sensitive environmental and agricultural areas, and well as diamond mining areas. At this stage, the proposed SEZ falls outside of the Phase 6 corridor. AW: If there is specific anchor point that we still need to consider, such as the proposed Boegoebaai Harbour and SEZ, a branch corridor can be developed to cater for and link to the landing point. We would appreciate if you could kindly send us the location files of the proposed Boegoebaai Harbour and SEZ. DF: I believe that a similar SEA Process could be undertaken within all ports and SEZs to allow streamlining of Environmental Authorisations, to inform better planning and facilitate development, whilst still ensuring environmental protection.

Comments or Questions Raised	Responses
	TM1: This was not mentioned in detail at the previous Northern Cape Authority Meetings. We can consider it now, however we would need to know how far along the planning process is for the harbour and SEZ, so that we can approximately consider it in the final pinch point analysis. DF: The project team will contact JL to request the additional information. The proposed harbour and SEZ is regarded as an anchor point, and we can try to accommodate it now. AL: I was also recently at the Northern Cape Lekgotla, and can try to obtain the necessary information if needed.

Discussion, Way Forward and Closing

DF: In terms of the way forward, the Project Team and Partners need to consider the following:

- Compiling a Communications Strategy to look at how the SEA can reach a wider audience and making a presentation to Ministers and the PICC.
- We need to be considerate of the Public Participation Process and expand it in areas where there are likely issues.
- We need to continue to look at changing technologies.
- Address the concerns regarding using the correct terminology relating to mining and gas production and extraction.
- Include a write up in the report regarding virtual pipelines, as it has been raised a few times during the SEA consultation process.

DF: The notes of the meeting and the presentations will be distributed to meeting attendees once finalised. There is also the possibility of including corridors to cover petroleum (crude oil and refined products). However, this will be confirmed in due course. We will meet at the following ERG and PSC.

The meeting was closed at 12.00.

A.7.8.4 Notes of ERG Meeting 4 – 27 November 2019

Meeting:	PSC and ERG Meeting 4	
Date of Meeting:	27 November 2019	
Venue of Meeting:	Council for Scientific and Industrial Research (CSIR) Pretoria Campus, Meiring Naude Road, Brummeria, Pretoria: Knowledge Commons – Ulwazi Auditorium	
Duration:	09H45 to 13H15	
Attendees:	▪ Dr. Dee Fischer (DF) ▪ John Geeringh (JG) ▪ Tobile Bokwe (TB) ▪ Ronald Marais (RM) ▪ Patrick Mulenga (PM) ▪ Viren Heera (VH) ▪ Mapaseka Lukhele (ML) ▪ Khathutshelo Tshipala (KT) ▪ Imran Karim (IM) ▪ Christian Prins (CP) ▪ Nomathemba Mazwi (NM)	▪ Fhumulani Nenzhelele (FN) ▪ Anel Hietbrink (AH) ▪ Rian Botes (RB) ▪ Wisdom Mpofu (WM) ▪ Niall Kramer (NK) ▪ Percy Langa (PL2) ▪ Paul Lochner (PL1) ▪ Rohaida Abed (RA) ▪ Fahiema Daniels (FD) ▪ Tsamaelo Malebu (TM) ▪ Khuthala Somdaka (KS) (attended via video conference)
Apologies	▪ Stella Mamogale ▪ Sipho Mokwana ▪ Rudzani Tshibalo ▪ Milicent Solomons ▪ Neville Ephraim ▪ Koketso Maditsi	▪ Mohsin Seedat ▪ Dr. Saneshan Govender ▪ Vusimuzi Zwane ▪ Dumisani Mthiyane ▪ Peter Nelson ▪ Kaashifah Beukes
Signed Attendance Register	Included as Appendix A (which includes Apologies)	

1. Purpose of Meeting and Agenda

In order to provide a progress update, present the findings of the Draft Decision-Making Tools, and to seek corresponding feedback from the Project Steering Committee (PSC) and Expert Reference Group (ERG), the last PSC and ERG meeting was held on 27 November 2019 at the Council for Scientific and Industrial Research (CSIR) offices in Pretoria. The meeting was chaired by Mr. Paul Lochner of the CSIR and Dr. Dee Fischer of the Department of Environmental Affairs (DEA) [now operating as the Department of Environment, Forestry and Fisheries (DEFF)]. Presentations were delivered by the CSIR and the South African National Biodiversity Institute (SANBI). The meeting agenda is indicated in the table below.

TIME	ACTIVITY/PRESENTATION	PRESENTER
09:45 – 10:00	▪ Tea and Registration	All
10:00 – 10:10	▪ Welcome and Introductions	DEFF
10:10 – 10:30	▪ Progress on the SEA Process	CSIR and SANBI
10:30 – 11:00	▪ Current Gazetted Process for EGI Development in the Corridors and Gazetted Generic EMPr	CSIR
11:00 - 12:00	▪ Proposed Draft Decision-Making Tool for EGI Development in the Corridors ▪ Discussion	CSIR All
12:00 – 12:15	▪ Break	All
12:15 – 13:15	▪ Proposed Draft Decision-Making Tool for Gas Pipeline Development in the Corridors ▪ Discussion	CSIR All
13:15 – 14:00	▪ Proposed Draft Generic EMPr for Gas Pipeline Development in the Corridors ▪ Discussion	CSIR All
14:00 – 14:30	▪ Discussion, Way Forward and Closing	All
14.30 – 15.00	▪ Lunch	All

2. Welcome and Introductions

DF welcomed all attendees to the PSC and ERG meeting, provided background on the status of the SEA, and discussed the proceeding of the meeting. An induction video was also displayed prior to the commencement of the meeting.

3. Presentation 1A: Progress on the Phased Gas Pipeline Network and Expanded EGI SEA

RA provided a brief background on the project, as well as a status update and a description of the key tasks undertaken during the SEA Process. The following questions were raised and responded to.

Comments or Questions Raised	Responses
NK: Has the SEA Process considered the Renewable Energy Organisations, such as SAWEA and other wind and solar developers.	RA: Yes, we conducted an Industry Feedback Exercise in May 2018 as part of the SEA. SAWEA was invited to partake in the exercise. Post-Meeting Note: The findings of the energy generation potential from the 2016 EGI SEA were also considered in the current EGI Expansion SEA.
WM: Does the SEA also consider the exploration work offshore and gas reserves, such as those off the coastline of Richards Bay.	RA: The SEA did not consider offshore activities. It only considered onshore gas transmission pipeline activities. Offshore exploration is subjected to separate project specific Environmental Assessment processes. However the final gas pipeline corridors do cover the major anchor points for imported gas and regional gas found offshore.

Comments or Questions Raised	Responses
	FD: The Gas Pipeline SEA is based on the Operation Phakisa Phased Gas Pipeline Network of 2014, which was also centred around major anchor points and enabling offshore gas reserves.
IK: Why is there no exemption from Environmental Authorisation (EA) for Gas Pipelines, as is proposed for EGI?	RA: Since the inception of the SEA Process, it was planned to streamline gas pipeline development within the corridors (once gazetted). There was initially an option to consider exemption from EA within low sensitivity areas. However during the SEA, stakeholders raised various concerns regarding exemption from EA for gas pipelines within the corridors. Therefore, it was decided to propose streamlining from a full Scoping and Environmental Impact Assessment (EIA) to a Basic Assessment (BA) for gas pipeline development in the corridors. Post-Meeting Note: It is important to note that EGI development within the current five gas pipelines was initially streamlined to a BA Process. Standards are only now being proposed for such development. This is based on various reasons, such as the Competent Authority having significant experience in deciding on EGI Applications, and because the issues related to EGI development are well understood. There are not many gas transmission pipelines in South Africa, hence there is room to understand potential impacts better, as well as to gain further knowledge during the decision-making stage. Therefore, the streamlining approach has been proposed for now. Exemption from EA can be considered in the future, once such impacts and risks are better understood.
NK: A point to note is that there is a gas field in Southern Mozambique (i.e. Matola) that is currently being explored. South Africa might benefit from this gas via importation once the gas is realised.	PL1: Noted.

4. Presentation 1B: Progress on the Phased Gas Pipeline Network and Expanded EGI SEA Corridor Refinement Process

FD provided a presentation on the refinement process for the Gas Pipeline and EGI Expansion Corridors. The following questions were raised and responded to.

Comments or Questions Raised	Responses
NK: Was the Demand Mapping done for both Gas and EGI? Was the demand mapped by location or quantum demand? Can you share the Demand Mapping information with stakeholders? McKinsey have also undertaken a study on gas demand. What is Priority Mining referring to?	FD: The Demand Mapping was done for both Gas and EGI. This was based on information that was provided by various stakeholders, as well as research. Most of the information was provided by location. For the EGI component specifically, generation potential in MW were specifically considered. For example, the Industry Feedback Exercise for the EGI component, identified the potential need for energy in the next 5 to 30 years. It was not possible to undertake this for the gas pipeline corridors. We can make the Demand Mapping information available to stakeholders, where the information used is already publically available. However, where data sharing agreements have been signed, and where such information is confidential, those cannot be shared.

Comments or Questions Raised	Responses
	The SEA did not consider the McKinsey report. Priority Mining Areas are a combination of mining information received from the Council for Geoscience and Department of Mineral Resources and Energy. Unfortunately, this information cannot be shared. Post-Meeting Note: The McKinsey Report was published in September 2019, after the completion of the Demand Mapping phase of the SEA, as well as after the identification of the final corridors. Nevertheless, demand will be considered on a project specific basis, and potential gas pipelines will only be constructed if there is a viable business case, a guaranteed source of gas and off-taker.
WM: It is understood that the SEA is a form of long term vision planning. Based on this, as well as current opportunities for export and import of energy, is it proper planning to avoid Swaziland and other neighbouring countries and only focus this SEA within South Africa? For example, we have a long standing arrangement with Lesotho to access water, so why should neighbouring countries be omitted?	FD: This SEA and the outputs thereof can only be applicable within the boundaries of South Africa. Legislative requirements in neighbouring countries do not fall within the mandate of the DEFF, hence the SEA cannot be enforced in such countries. Therefore, Swaziland, for example, was considered as a pinch point because the corridor could not be widened any further without encroaching Swaziland, which is an administrative and legislative concern. Nonetheless, the corridors have been designed based on the energy mix of South Africa, as well as to facilitate import and export of power and gas with neighbouring countries.

5. Presentation 2: Current Gazetted Process for EGI Development in the Corridors and Gazetted Generic EMPr

RA provided a presentation on the current process for EGI development in the gazetted EGI Corridors, as well as the implementation of the gazetted Generic EGI EMPr. The following questions were raised and responded to.

Comments or Questions Raised	Responses
RM: The wording of Listed Activity 9 of Listing Notice 2 should be amended because infrastructure for the distribution of electricity is 132 kV or below. The Listed Activity should therefore not refer to "distribution" as distribution infrastructure does not have capacities above or more than 275 kV.	RA: Noted, Listed Activity 9 of Listing Notice 2 as indicated in the meeting presentation was extracted verbatim from the 2014 NEMA EIA Regulations. Listed Activity 9 of Listing Notice 2 states: *"The development of facilities or infrastructure for the transmission and distribution of electricity with a capacity of 275 kilovolts or more, outside an urban area or industrial complex excluding the development of bypass infrastructure for the transmission and distribution of electricity where such bypass infrastructure is:* a) *temporarily required to allow for maintenance of existing infrastructure;* b) *2 kilometres or shorter in length;* c) *within an existing transmission line servitude; and* d) *will be removed within 18 months of the commencement of development".* Any amendment needed to the EIA Regulations would be a separate legal process within the DEFF.

Comments or Questions Raised	Responses
	Government Notice 113, published in February 2018, allows for streamlining of Applications for EA for large scale electricity and distribution infrastructure development within the gazetted EGI corridors, which trigger Activity 9 of Listing Notice 2 (and any other listed activities for the realisation of such infrastructure) from Scoping and EIA to BA with a reduced 57 day decision-making timeframe. This was an outcome of the 2016 EGI SEA Process. It has come to light that if Activity 11 of Listing Notice 1 is triggered within the gazetted EGI corridors, then a BA Process would be required, but it would not be subjected to the reduced decision-making timeframe of 57 days, and would need to be subjected to the normal 107 day decision-making timeframe. JG: This is the case, however if Independent Power Producers (IPPs) were to develop EGI in the gazetted EGI corridors that trigger Activity 11 of Listing Notice 1, then they could apply to the PICC for their project to be considered as a Strategic Integrated Project (SIP), which could allow for the reduced decision-making timeframe. PL2: I would like to re-iterate that the shorted decision-making timeframe for power line infrastructure in the gazetted corridors for Activity 9 of Listing Notice 2 versus the normal BA process and 107 day decision-making timeframe in the corridors for Activities 11 of Listing Notice 1 needs to be rectified because this poses a constraint for IPPs and solar and wind energy developers. NK: It is noted that the SEA Process is an enabling tool towards infrastructure development. DF: The DEFF will look into shortening the timeframe for decision making if Listed Activity 11 of Listing Notice 1 is triggered in the gazetted EGI corridors. There is other learning that the DEFF still need to consider for future gazetted notices, such as omission of amendment applications in GN 113 and 114. Furthermore, the wording on which activities apply, and what are considered as the necessary infrastructure for the realisation of the project need to be clear. Therefore, it is important for stakeholders to comment on gazette notices when they are made available, so they can be examined to see if anything has been omitted or if anything needs to be improved. TB: The concern is that a 30 day comment period is given and then there is no room for further engagement afterwards to see how your comments have been addressed and to submit follow up queries. But it is understood that the commenting period cannot be open-ended. DF: All legislation and gazettes are vetted within the DEFF by the Legal Department. In addition, Comments and Response Reports are compiled to document each comment received, and responses are provided to confirm how the comment has been addressed. The Comments and Responses are also made available on the Department website, once finalised.

Comments or Questions Raised	Responses
	PL1: It is also important to note that the Decision-Making tools are based on the SEA inputs, which the ERG and PSC have been made aware of.
PL2: Is it possible to share the shapefiles of the EGI SEA with us?	FD: Yes, we can share the shapefiles of the final corridors, and any other publically available environmental information. We will not be able to share other confidential information or information that required us to sign a data-sharing agreement.
PL2: Is it possible to include roads and municipalities on the maps in the report in order to provide context?	FD: Yes, we can add national (and potentially regional) roads and district municipalities on certain maps in the report. We cannot add them to any of the wall to wall maps, as these are quite busy already. RA: It is agreed that we will include national roads and district municipalities on the final corridor maps only.
RB: There are various alternative energy projects that have been recently proposed within the City of Ekurhuleni. Will these proposed projects benefit from the outcomes of the SEA Process?	PL1: There are various tools that have been implemented to streamline EA processes. It depends on whether these projects would fall within the provisions of these tools. RA: For this Gas Pipeline and EGI Expansion SEA, the proposed projects would need to be related to gas pipeline development or EGI development within the corridors. Such benefits would only be realised once the corridors and tools are gazetted. There is also the gazetted Wind and Solar Renewable Energy Zones, and gazetted EGI corridors that allow for a streamlined EA processes. TB: We can discuss this further with you offline, because it depends on the project.

6. Presentation 3: Proposed Draft Decision-Making Tool for EGI Development in the Corridors

PL1 provided a presentation on the proposed process for EGI development in the Expanded EGI and Gazetted EGI Corridors, through the implementation of a Standard. A draft standard was presented. The following questions were raised and responded to.

Comments or Questions Raised	Responses
RM: When the power lines are planned, are there safety zones that show where no development should take place? Are there any incompatible land uses? How far can development occur? Can these areas be used as public space? Is there a blast zone for the gas pipeline?	JG: The power line servitude is the area that is required for safe operation and is the extent of exclusion. Servitude widths vary according to the voltage of the line and various pylons. It is an open area which ideally should not be developed on due to safety risks. Eskom power lines are designed to comply with relevant standards and the Occupational Health and Safety Act, such as the height of the power line from the ground, building restriction distances etc. Post-Meeting Note: The gas pipeline will also be developed according to relevant national and international standards, which will specify safety distances and buffer zones.
PL2: Has the World Health Organisation (WHO) Study on Electromagnetic Frequency (EMF) been considered for the EGI? I am aware of a previous report done by Eskom on EMF - has this been updated?	JG: Eskom currently complies with the WHO in terms of EMF requirements. Most of the IPPs also undertake self-build options for their lines, however they sometimes transfer ownership to Eskom once operational. Therefore, the IPPs are also required to comply with Eskom design standards for power lines, and therefore take EMF into consideration.

Comments or Questions Raised	Responses
	The Standard specifies guidance for routing of the power lines, such as staying a certain distance away from piggeries and hatcheries, for example.
KT: Is the Public Participation Process a mere reference to the EIA Regulations or are there additional recommendations and requirements?	RA: No, the Standard has specified that Public Participation must be undertaken in compliance with the EIA Regulations. PL1: It was decided not to repeat the requirements specified in the EIA Regulations regarding Public Participation, which is believed to be sufficient for the EGI development.
TB: I do like the product, however I would like to note: - The Standard is based on self-regulation by the developer. How will this be handled? - With regards to the registration, how will this process be undertaken? Will the Competent Authority make a decision on whether the project can or cannot go ahead? What is the role of the Competent Authority? For example, in Waste Applications relating to Norms and Standards, the Department gives you a decision of "yes" or "no". This needs to be clarified. - How will this influence the lender process if some developers have to apply for funding? Funders have different requirements. How will this be addressed? - In terms of the Environmental Principles, what happens if any of them cannot be met, for example, what if Critically Endangered (CR) and Endangered (EN) ecosystems cannot be avoided? Must a full Scoping and EIA then be undertaken? What process must be undertaken?	DF: The registration process will entail the submission of a registration form by the Environmental Assessment Practitioner (EAP), and the Competent Authority will then have 30 days to register the project. The Competent Authority will need to register the project so that it can be audited by Environmental Management Inspectors (EMIs) as required. It is also an offence not to comply with the Standard, therefore developers have an obligation to comply with it. In a Standard, there cannot be approval from the Competent Authority. With regards to the principles, these have to be met in order to comply with the standard. These principles need to be discussed with Eskom further down the line to ensure that they are practical. In terms of the lenders, the main processes have not changed. The only difference from a traditional Environmental Assessment process is that there is no EA being issued, and there is no moderator in the Standard. The Standard has captured the requirements for specialist input. The specialists will provide a concluding statement that will recommend if the project can go ahead or not. They will sign off on the project, and their statement will form part of the Environmental Sensitivity Report that will be released for stakeholder comment. RA: We also engaged with the Lender sector during the SEA. Overall, it was confirmed that many of the lending sector requirements occur post EA anyway, therefore such requirements can be considered post-registration in the case of the Standard. If the Standard is gazetted for implementation, then it will form the basis for EGI development in the corridors, which will comply with legislative requirements of the host country. This was not perceived as a concern by the lenders. JG: Agreed, the lenders acknowledge South African environmental legislation but have additional requirements post decision-making.
RB: When will Local Authorities provide input to the EGI development in relation to the standard?	PL1: A list of Interested and Affected Parties (I&APs) and stakeholders will be generated at the beginning of the Public Participation Process and they will be engaged with via the release of the Background Information Document and the Draft Environmental Sensitivity Report. The Local Municipality will be consulted with during these stages. It is a mandatory requirement to engage with the Local Municipality as specified in the EIA Regulations.

Comments or Questions Raised	Responses
	JG: Yes, the same process will be followed in terms of current Public Participation Processes for BA and EIA Processes. For example, it is required to consult with the Ward Councillor etc.
KT: What is the output of the registration process?	DF: It could be a registration number or a letter. How is it currently undertaken in Gauteng Standard? AH: For the Gauteng Standard, the department provides a letter confirming registration, and it contains a registration number.
NK: There would be no visual impacts relating to gas pipeline development during the operational phase, as compared to EGI. What would the Appeal Process entail? Who will decide on the Appeals? Would cases need to go to court?	DF: For EGI development in the corridors, submission of a pre-negotiated route has been allowed for. Therefore, you would not really expect appeals, however anyone can appeal. Appeals on environmental grounds are handled by the Appeals Directorate of the National DEFF and decisions are made by the Minister, if the Competent Authority is the National DEFF. Post-Meeting Note: If the Competent Authority is the Provincial Environmental Department, then the Provinces would handle the appeal and it will be decided upon by the MEC of that province.
TB: It seems like the Standard is focused on avoidance and either have an "on" or "off" principle. Is there no middle ground? What about offsets?	DF: We have to discuss the non-negotiable principles with the project partners and stakeholders, such as Eskom. The Standard will only work if there is an "on" and "off" principle. We need to discuss what the hindrances to "on" and "off" are. Offsets are also not a straightforward solution, if they are proposed, they have to be "like" for "like". FD: It must be noted that the CR and EN ecosystems only make up less than 7% of the country.

7. **Presentations 4 and 5: Proposed Draft Decision-Making Tool and Generic EMPr for Gas Pipeline Development in the Corridors**

RA provided a presentation on the proposed process for gas pipeline development in the Gas Pipeline Corridors (once they are gazetted), as well as feedback on the proposed draft generic EMPr. The following questions were raised and responded to.

Comments or Questions Raised	Responses
ML: Must the rehabilitation specialist be independent or can it be a specialist on the Applicant team?	TB: Usually independence relates to EAPs and Environmental Control Officers. RA and FD: We have not come across any EMPrs that recommend or specify that the rehabilitation specialist must be independent. The main recommendation is that the rehabilitation specialist must be suitably qualified.
TB: With regards to topsoil removal and backfilling, the EMPr must specify that it must be topsoil that contains its original vegetation.	PL1: Noted, we will edit this accordingly.
TB: With regards to backfilling to a height of approximately 15 cm higher than the surrounding areas, how will this be audited? Is this practical?	DF: This point is noted and agreed with. Instead of providing specifics, the EMPr should rather recommend that the trench is backfilled in a manner that allows the surface to be free draining and prevents erosion.

Comments or Questions Raised	Responses
NK: Overall I think this is a good process.	DF: This is noted with thanks. We realise the importance of the Generic EMPr.
IK: If the bunded area needs to have a volume of 110% of the product stored, this would be difficult to achieve for the actual pipeline.	JG: The bunding requirement is for dangerous goods, such as petrol and diesel, which is temporarily stored on site during the construction phase. RA: The bunding requirement would not apply to the pipeline itself during the operational phase. DF: The specifications provided for the bunds would not be able to apply to all projects and it will also depend on the location of the project. The EMPr should rather mention that dangerous goods must be stored in a contained area.
NK: Is the type of gas and its constituents specified in the SEA process? Would Methane Rich Gas fall within the scope of the SEA? For example, some natural gas tend to consist of methane and a high helium content.	RA: Natural gas has been assessed in the SEA. LNG has not been considered in the SEA. The actual composition of natural gas was not specified in the SEA, as the constituents tend to vary in percentage. FN: You should consult the Gas Act to determine if there is a definition for natural gas. Post-Meeting Note: This will be clarified in the SEA Report.

8. Discussion, Way Forward and Closing

Comments or Questions Raised	Responses
NK: Have you consulted with activist groups and NGOs during the SEA?	DF: Yes, we have consulted with them, especially in KZN, Gauteng and Cape Town.
NK: You should also engage with an independent pipeline developer, not just state owned entities. I will send you details for one such developer.	PL1: Noted, we will send you an email prompt to request these details.

DF: In terms of the way forward:

- The CSIR's work is now complete. The next step is for government to work on the gazetting of the outputs of the SEA, which entails various internal processes.
- We have a significant process ahead, and it is hoped to have the Standard finalised for gazetting by the end of 2020. DEFF will need to undertake a few iterations of the Standard. We need to meet with the IPPs and Eskom and make sure that the Standard is implementable. When the Standard is gazetted, it is expected that GN 113 will be repealed.
- We do not foresee many concerns regarding the gazetting of the Gas Pipeline and Expanded EGI Corridors.
- Gazetting of the Gas Pipeline Corridors are also not much of a concern as it will result in a streamlined EA process, i.e. a BA Process, shortened decision-making timeframe of 57 days, and the submission of a pre-negotiated route. It is expected that the corridors will be gazetted by mid-2020.
- For the Expanded EGI Corridors, GN 113 will be in force until the Standard is gazetted for implemented. It is unlikely that there will be an amendment to GN 113 at this stage to make provision for a reduced decision-making timeframe for power line developments that trigger Activity 11 of Listing Notice 1.
- We will also work on amending the Generic EGI EMPr to correct a few points, and to also align it with the Standard (once gazetted).

- We will also workshop the Gas Pipeline EMPr with relevant partners to ensure that the impact management actions are practical and workable.
- When the draft Standard for EGI and Gas Pipeline EMPr are gazetted for comment, stakeholders are encouraged to review it to ensure that it is practical. We will try to arrange a comment period before the gazette comment period for Eskom as well.
- The CSIR's input to the SEA Process is now complete and closed out.
- It is hoped that we have some positive media coverage.

DF: The notes of the meeting and the presentations will be distributed to meeting attendees once finalised.

The meeting was closed at 13.15.

A.7.8.5 Notes of Public Outreach Roadshow – Round 1 for Stage 1 Consultation

A.7.8.5.1 Western Cape - Cape Town: 1 November 2017

Meeting:	Cape Town Public Meeting: Meeting Notes		
Date of Meeting:	01 November 2017		
Venue of Meeting:	Cape Town Library: 60 Darling Street, Cape Town, 8000		
Duration:	17H30 to 19H30		
Attendees:	▪ Annick Walsdorff (AW) ▪ Samukele Ngema (SN) ▪ Simon Moganetsi (SM) ▪ Tobile Bokwe (TB) ▪ Neville Ephraim (NE) ▪ Rohaida Abed (RA) ▪ Dumisani Mthiyane (DM)	▪ Fahiema Daniels (FD) ▪ Tsamaelo Malebu (TM) ▪ Norma Malatji (NM1) ▪ Vusimuzi Zwane (VZ) ▪ Marilyn Lilley (ML) ▪ Anschen Friedrichs (AF) ▪ Howard Maggott (HM)	▪ Jody Brown (JB) ▪ Ingrid Schofman (IS) ▪ Sipho Mokwana (SM1) ▪ Jonathan Crowther (JC) ▪ Benedicta Mahlangu (BM) ▪ Nokwanda Mkhize (NM)
Signed Attendance Register	Included as Appendix A		

1. Purpose of Meeting

An initial Public Outreach Process extending from 1 November 2017 to 13 November 2017 has been scheduled at various regions across the country to present the Strategic Environmental Assessment (SEA) and the initial draft Phased Gas Pipeline Network (PGPN) and Electricity Grid Infrastructure (EGI) expansion corridors to the public, as well as to discuss information requirements and feedback that is required by the SEA Project Team. The meeting was chaired by Mrs. Annick Walsdorff (AW) from the Council for Scientific and Industrial Research (CSIR). Presentations were delivered as per meeting agenda below:

TIME	ACTIVITY/PRESENTATION	PRESENTER
17:30 – 17:45	Welcome and Introductions	CSIR (AW)
17:45 – 18:00	Background on the Phased Gas Pipeline Network Corridors	iGas (NE)
18:00 – 18:15	Introduction to the SEA Process	DEA (SM)
18:15 – 18:45	SEA Process and Proposed Methodology	CSIR and SANBI (AW and FD)
18:45 – 19:30	Discussion, Way Forward and Closing	All

2. Comments and Responses

Comments or Questions Raised	Responses
ML: Is offshore pipelines or drilling part of this SEA, who would look at that and what department would it fall under? With offshore development there are huge seismic assessments which affect the marine ecology, are there public participation processes that will be undertaken for the seismic exploration?	AW: We are not looking at any offshore activities in this SEA Process. We are only assessing the corridors for sensitivity for the proposed development of onshore pipelines, and the offshore work would be done separately. The offshore drilling and exploration would trigger a separate Environmental Impact Assessment (EIA) which would be reviewed and decided on by the Department of Environmental Affairs (DEA), and if there is digging, this will fall under the jurisdiction of the Department of Mineral Resources (DMR). NE: We are creating an environment for offshore exploration by providing an onshore pipeline network which could potentially be used to distribute the gas found offshore. BM: The developer who is conducting the seismic testing would have to do the public participation process as part of their EIA application.
ML: What type of development will occur in the corridors? What other infrastructure associated with the pipeline will be constructed in the corridors and how big will they be? Will the proposed pipelines be below or above ground? How will waterways and rivers be impacted on by the underground pipelines? Will this be similar to the Dakota Access Pipeline in the USA, and will you have compressor.	AW: The study corridor is 100 km wide and in terms of the scope of the SEA, only the aspect of transmission pipeline development would be assessed. However, the entire 100 km corridor will not be sterilised for pipeline development. The objective is to assess the suitability and sensitivity of the corridor and to find corridors with the most least sensitive areas and engineering constraints. NE: The proposed pipeline will be underground, and the visible structures will be in the form of Pigging Stations where the pipeline comes above ground. A PIG is a Pipeline Intelligence Gauge used for pipeline inspection. The Pigging Stations can be 130 km apart from each other along the proposed pipeline route. Pipeline markers will also be placed every 1 km along the proposed pipeline route. Compressor stations would be required to increase the throughput of the pipeline. In the Rompco Pipeline, for example, the compressor station is located in agricultural lands, so the impact on surrounding settlements is minimal. In terms of transmission power lines, the visible infrastructure will include pylons and the actual powerlines, as well as connection to the substations. The pipeline infrastructure can exist together with rivers and waterways and they present a limited risk of spillage to the riverine systems. The width of river will determine the type of crossing, i.e., either open cut or Horizontal Directional Drilling (HDD) and amount of HDD drilling required. At this point there is no proposal to develop any new large infrastructure such as refineries. That will be discussed later depending on the business case, and will be based on a separate assessment process.
ML: Has this SEA been completed or is it in progress? When will the required EIA and its associated public participation process be undertaken, as it is important for the public to get the full picture of the pipeline so they can be prepared.	AW: This SEA has started recently and is anticipated to be completed around mid-2018. NE: The Public Participation Process requirements as part of the separate EIA Processes are noted and this will be undertaken on a project specific basis, once there is a business case.

Comments or Questions Raised	Responses
Will there be flaring? What impact will the proposed project have on the carbon footprint?	There will not be any flaring activity along the proposed pipeline routes. That is restricted to the existing stations at this point. The objective for the developer is to build a safe pipeline that will not incur any product losses via flaring or other means in order to reduce loss of capital. However the mechanisms for flaring will be in place should this be required for emergency situations. These issues will all be dealt with in the proposal to actually construct the pipeline on a project specific basis. At this stage, the SEA Process is only focusing on pre-planning and pre-assessment, should the proposed pipeline occur.
BM: Is there a plan to allow for off-takers along the pipeline route on the way to the expected hubs (i.e. incorporating other industrial areas along the way)? Which gas is the focus at this point?	NE: The corridors consider the major industrial areas and ports (such as Richards Bay, Saldanha and Ngqura). There are the block valves every 30 km and PIG Stations every 130 km along the pipeline route, and these can be points for off-takers to source the gas. The SEA is focused on Methane gas.
AF: How flexible are the phases which have been identified? Can the phases start in a different sequence based on demand?	NE: These are autonomous of each other, and the business case will determine which phase starts first depending on supply and demand. Therefore, the order or construction can be different from the numbering.
IS: What security measures will be implemented into the design of the proposed pipeline structure, in case of any sabotage? Is there scope for these corridors to have other infrastructure such as fibre optics and telecoms so that resources could be enhanced?	NE: When the route is finalised and construction will commence, there will be a construction right of way which is between 30 – 50 m wide, and the final operational servitude will be 10 m wide with the pipeline located in the middle of the servitude. There will be markers every 1 km along the pipeline route, but there will be no security on the pipeline itself. However, as part of the maintenance and inspection processes, the route will be driven or flown over, and more recently drones are also being used to monitor the route. It is possible to have other infrastructure located within the servitude. This is already being done with the Rompco pipeline from Mozambique to Secunda with fibre optic cables being included in certain parts of the trench. JC: There are already pipelines (from Saldanha) which are visible from the road, and the operator flies the routes every 3 months to monitor them. In terms of security, existing pipelines are mostly located on private property and there is limited access. The pipelines are made of strong material, such as thick steel. VZ: There are also inspections undertaken on behalf of the National Energy Regulator of South Africa (NERSA). There are also other infrastructure occurring within the servitude for the Transnet's National Multi-Product Pipeline.
ML: If the gas is found in South Africa, who will drill it? The ports would be important in this project. Who would be funding the process of moving the gas to and from the ports for import or export, would it be private companies, who would then sell it to a foreign a market? What costs will this have on South Africa, and who will invest in this and who will benefit? How will it affect farming areas and who will be responsible for the servitude, or will the land be expropriated? Does the pipeline affect the insurance policy of the farmers?	NE: It depends on the quantities found, we cannot comment now on who would do the explorations except that it would be the licence owners of the respective blocks. In Mozambique, ENI has a floating LNG project linked to the Rovuma Basin. All of that gas is being exported. We would want to use all of the gas in South Africa and only export if the volumes are sufficient. In terms of costing and investment associated with the proposed pipeline, there will not be any cost to the South African citizens and tax payers, as this is not a public project. iGas a government company will be involved in the development. However, the proposed pipeline

Comments or Questions Raised	Responses
	development will be project financed with loans from banks that will be repaid with proceeds from the pipeline income. Each pipeline will have its own business case. The landowner will be made aware of the requirements and restrictions (such as not planting any deep-rooted crops or constructing any buildings and infrastructure within the servitude itself) during the servitude negotiation process.
JC: Based on the wall to wall environmental sensitivity map, the green or low sensitivity areas are shown to be in the Kalahari, so does it mean it is the only place to develop a pipeline? How do you set the limit of all the sensitivity criteria? If you tweak the limits and it shows that the whole country is red (high sensitivity), then the settings of the sensitivities are wrong. This visual impression of the environmental sensitivity wall to wall map is a negative one (as it is mainly high sensitivity).	FD: The proposed corridors that will be assessed as part of this SEA do not intersect with the Kalahari Desert, and therefore from a data perspective and environmental sensitivity, this area was not the focus. At this scale, the draft wall to wall map shows red (high-very high sensitivity) in most areas but at finer scale there are areas of lower sensitivity and therefore there are possible routes through least sensitive areas. We are still at the early stages of this process, and with the help of specialists we will be able to refine the sensitivities and allocate to them the appropriate sensitivity ratings. These will also be supported by the site specific assessment development protocols which will guide the developer in terms of what must be done on a site specific level in areas of medium, high and very high sensitivity in order to go ahead with their project, and obtain Environmental Authorisation (EA) in terms of the EIA Regulations. In areas of low sensitivity, the developer of the pipeline would be exempt from an EIA Process, whilst still following the Norms or Standards, or some level of pre-compliance assessment and site verification.
JC: In terms of the EIA Regulations and listed activities, a developer of a pipeline would need to do an EIA regardless of which area the pipeline will be developed, unless you are going to change the legislation through this SEA Process.	Note from the CSIR: If a pipeline will be developed in a low sensitive area within the corridor, the developer would be exempt from undertaking an EIA while still following a Norm or Standard. It does not mean that some level of assessment would not be required - this could be a site verification visit or a compliance statement which will all be confirmed in the Norms or Standards and Protocols.
VZ: Are you saying this picture of the maps may change as we go along?	FD: The locations of the corridors may change a little bit but the sensitivity will change over time as we get more refined data and specialist inputs. The environmental features that are being considered might probably not change.
IS: Is the SKA area considered?	FD: It is considered and marked as a very high sensitivity area. However it will not be affected by the gas pipeline as there is no electromagnetic interference and radiation created by gas pipelines.
AF: I suggest you contact companies which already hold EAs for gas pipelines that would be willing to share the information of the different data they generated in their application process.	Note from the CSIR: Comment noted. The Project Team will research companies that have existing EA approvals and will approach them for information.
JB: Within the corridors there are CBAs and protected areas etc. Will the SEA be proactively looking at methods for generating biodiversity offsets? Will that matrix be quantified in this SEA?	FD: This SEA will not be quantifying any matrix in terms of offsets as the SEA is on a landscape scale and offsets would need to be considered and quantified on a project specific basis. Along with the specialist inputs, there would be the compilation of a site specific development assessment protocol, which may have the recommendation for biodiversity offsets on an individual project basis.
IS: I suggest you contact the Endangered Wildlife Trust (EWT) for information and feedback.	AW: The EWT are aware of the project and are on the project Expert Reference Group. FD: The EWT has also provided data that can be used in the sensitivity analysis.

Comments or Questions Raised	Responses
ML: I suggest you invite the San people to partake in this SEA as it involves their areas as well. I also suggest there is an air quality assessment as part of this SEA, as the compressor stations have fugitive emissions which you cannot see and but are serious health hazards. If there is flaring, a visual study should be taken into consideration. In addition, there should be a greenhouse gas and carbon footprint report of the pipeline.	FD: Those studies would fall under the EIA Process and not necessarily in the SEA. SM: With the appeals currently going on, there is a recommendation that any development with climate change issues need a climate change specialist to consider the impact. However, this is in the process of being implemented in the EIA Process, on a project specific level. VZ: From NERSA's perspective, when applicants are submitting an application; they are expected to produce a climate change report.
IS: Is there any timeframe set aside for the SEA process to occur?	AW: We are tentatively planning to finalise the SEA process by mid-2018, and the gazetting by the end of 2018.
JC: This can cause uncertainty to the local authorities as they made need to consult you every time they want to do anything in the 100 km corridor while waiting for the pipeline to occur. IS: Some authorities are completely defunct and have no capacity to do anything, and based on experience there is no feedback in trying to engage with some municipalities as there are no plans currently there.	AW: We will look at Provincial SDFs (20 years and updated every five years) as well as district municipalities SDFs/IDPs for current plans to ensure that these are taken into consideration when identifying the best routings. It is also important for province and municipalities do take the proposed corridors into consideration in future developments. TB: The objective of the SEA is to identify incompatible land uses for the pipeline and not completely sterilise the whole area in the corridor. We must link the gas pipeline and the SDFs going forward.
ML: Looking at the 100 km wide corridors, how will all the affected parties be informed of the project and that they fall within the corridors, and how does this affect property prices in the next 20 years?	AW: We are looking at 100 km wide corridors so that we can identify as many low sensitivity routes as possible, so if there is an issue during landowner negotiations, a different route can be opted for. Landowner issues will not be discussed at this SEA Level, and would be undertaken on a project specific basis, along with necessary public participation required in terms of the EIA Regulations. In addition, it does not mean that some level of specialist assessment or verification would not be required. SM: It is important to note that streamlining the EA Process does not negate the need for some level of assessment to be undertaken if a listed activity is triggered. Note from the CSIR: Kindly refer to the responses provided above about the decision-support tools (i.e. Norms, Standards and Assessment Protocols).
AF: Since we do not have many gas pipelines in South Africa, it is normal to be sceptical about them, but pipelines are all over the place in Europe and the developers make sure their product has the least chance of being lost through accidents etc. and are delivered as securely as possible (i.e. they invest in the design).	AW: Noted. In addition, as part of the sensitivity analysis, the human settlements will be considered, as well as the proximity to gas pipelines.
JC: You should have information on how gas networks actually function in other parts of the world, and this should be on the project website, and you should also show the benefits of gas as opposed to coal. With regards to the decision making factors, this SEA supersedes the EIA through its instruments of gazetting a corridor. The concern is when legislation changes often and it is not taken into consideration properly. In the norms and standards will there be careful interaction with industry to ensure the standards are appropriate?	AW: In the norms or standards, recommendations of an environmental nature will be provided, not design standards. Those design standards would be implemented during design, construction and operation, and would be provided by the developer (such as iGas). It is understood that a SABS standard for pipeline designs in South Africa is being developed. NE: Currently we are using the American ASME B31.8-2016 standard, but each design will be specific to a pipeline.

Comments or Questions Raised	Responses
What design standards does South Africa use and what will occur when there are two different countries involved in the design and construction – which standard will be used to ensure that there is no differing level of work? IS: When will the norms or standards be developed?	TB: The issue would be compliance and linking it to the objective that needs to be achieved and what is acceptable to South Africans. Note from the CSIR: They will be developed as part of this SEA Process, and is one of the outputs.
ML: What monitoring will be undertaken when the actual pipeline is being developed to ensure the building designs are being adhered to? Will there be any public participation for the construction phase?	NE: During construction, an Environmental Management Programme (EMPr) would be complied with and an Environmental Control Officer would be required to monitor compliance with the EMPr. Competent Authorities are also required to keep track of progress and compliance with the EMPr. Note from the CSIR: The requirements of compliance monitoring are usually stipulated in an EA, and for this SEA it will be stipulated in the outputs (such as the EMPr, Norms or Standards and Protocol, as necessary). SM: If we become too prescriptive it becomes difficult to monitor, the goal should be to comply with certain standards and ensure overall compliance. TB: Another point to consider is to ensure that the engineers are aware of the conditions noted in the EA, so that overall compliance can be achieved. Note from the CSIR: The requirements for public participation would be stipulated at a project specific basis, depending on what level of assessment would be required. This will be guided by and specified in the outputs of the SEA.
ML: If it takes 20 years for the pipelines to happen, how would that influence the results of all these assessments that are currently being undertaken? JC: It is understood that the objective is to find the path of least resistance, and if there are large sensitivity or data gaps, these would be verified as part of a separate Environmental Assessment Process, which would have a validity period should an EA be issued.	NE: It is important to re-iterate that the pipeline will not be built if there is no business case. AW: This is not an EIA which has a validity period, so time constraints would not apply. There is not validity period on the actual SEA and its outputs, and furthermore, there will still be a need to undertake some level of assessment for pipeline development within the corridor, so the environmental features can still be verified or ground-truthed by specialists on a project specific basis. Furthermore, the corridors themselves would be gazetted and not the actual sensitivities of the features, which may evolve with time. FD: The protocols would stay the same, and the changes would be the data which was used to produce the final corridors and the data used by the DEA screening tool which would be up to date at that time and still apply the same protocols produced now.

A.7.8.5.2 Eastern Cape – East London: 2 November 2017

Meeting:	East London Public Meeting: Meeting Notes		
Date of Meeting:	02 November 2017		
Venue of Meeting:	East London City Hall Conference Centre: Oxford Street, East London City Centre		
Duration:	17H30 to 19H30		
Attendees:	▪ Annick Walsdorff (AW) ▪ Samukele Ngema (SN) ▪ Simon Moganetsi (SM) ▪ Tobile Bokwe (TB) ▪ Rohaida Abed (RA) ▪ Yamkela Gilili (YG) ▪ Xhanti Rwayi (XR) ▪ Ayanda Keka (AK) ▪ Lizalise Mngcele (LM) ▪ Simthandile Lintes (SL) ▪ Nandipha Mshumi (NM) ▪ Bev Gush (BG) ▪ Moeketse Nthabisena (MN) ▪ Nicosinathi Sifenengu (NS) ▪ Sekeleni Makeleu (SM1) ▪ Mbi Ayola (MA) ▪ Nozako Ncapayi (NN1) ▪ Lunga Khuphelwo (LK) ▪ Tsamaelo Malebu (TM) ▪ Thabani Dlamini (TD)	▪ Mosali Gigaba (MG) ▪ Nhlanhla Ndikandika (NN) ▪ S. Mlinda (SM2) ▪ Nobuhle Menziwa (NM1) ▪ Nwabisa Gili (NG) ▪ Nomeva Zimkhitha (NZ) ▪ Lwazi Rabaza (LR) ▪ Thozama Stuurman (TS) ▪ Yandisa Ntshebe (YN) ▪ Sinekhaya Godlimpi (SG) ▪ Zanele Gangala (ZG) ▪ Magwala Sinazo (MS) ▪ Zembe Nkosoxolo (ZN) ▪ Mzamo Vanisile (MV) ▪ Mtwa Vuyiswa (MV1) ▪ Maria Mtyando (MM) ▪ Ndilungelo Mbusi (NM2) ▪ Nobabalo Nyombo (NN1) ▪ Vusimuzi Zwane (VZ) ▪ Dumisani Mthiyane (DM)	▪ Andiswa Zimkhatha Ndlela (AZN) ▪ Nopasika Lady Leve (NLL) ▪ Simphiwe Williams (SW) ▪ Mandla Ndosomathathi (MN1) ▪ Luxolo Hoho (LH) ▪ Nwabisa Dyani (ND) ▪ Makungo Shumani (MS) ▪ Luvo Nonkonyana (LN) ▪ Shakir Fataar (SF) ▪ Nkosipi Yendule (NY) ▪ Asanda Kula (AK) ▪ Phelo Dondolo (PD) ▪ Andisiwe David (AD) ▪ Bongiwe Kentane (BK) ▪ Nontobeko Pokwana (NP) ▪ Vuyiseka Mtati (VM) ▪ Michele Rivarola (MR) ▪ Mr. Mfundo ▪ Councillor Vusumzi Njece (VN)
Signed Attendance Register	Included as Appendix A		

1. Purpose of Meeting

An initial Public Outreach Process extending from 1 November 2017 to 13 November 2017 has been scheduled at various regions across the country to present the Strategic Environmental Assessment (SEA) and the initial draft Phased Gas Pipeline Network (PGPN) and Electricity Grid Infrastructure (EGI) expansion corridors to the public, as well as to discuss information requirements and feedback that is required by the SEA Project Team. The meeting was chaired by Mrs. Annick Walsdorff (AW) from the Council for Scientific and Industrial Research (CSIR). Presentations were delivered as per meeting agenda below

TIME	ACTIVITY/PRESENTATION	PRESENTER
17:00 – 17:15	Welcome and Introductions	CSIR (AW)
17:15 – 17:30	Background on the Phased Gas Pipeline Network Corridors	iGas (TD)
17:30 – 17:45	Introduction to the SEA Process	DEA (SM)
17:45 – 18:15	SEA Process and Proposed Methodology	CSIR and SANBI (AW and TM)
18:15 – 19:00	Discussion, Way Forward and Closing	All

2. Comments and Responses

Comments or Questions Raised	Responses
MR: There is an abundance of natural gas in Angola and Mozambique. So why would South Africa want to destroy its own environment when it can actually exchange gas for other goods with these countries? We buy oil from Saudi Arabia yet our neighbours are shipping oil to the United States. Shale gas uses about 1000 kilolitres of water a day, where will this water be obtained from to support the shale gas? Shale gas exploration in the United States of America has left the community of Kentucky not able to drink water from their taps as it is polluted and contaminated as a result.	TD: South Africa does get natural gas from Mozambique via the ROMPCO pipeline; however South Africa needs to also ensure security of supply of its own energy, supporting the Integrated Resources Plan (IRP) energy mix. That is why we do not want to rely solely on Mozambique, but we also want to grow the economy and create jobs. It is also important that South Africa has an energy mix, where we have alternative energy sources, with fewer emissions, supporting "Green" cleaner energy future. The issues of water pollution as a result of shale gas exploration has evolved a bit, where there have been developments in the technology and the water requirements have decreased at this stage. The issues related to Shale Gas are however not within the scope of this current SEA relating to the PGPN. These issues should be dealt with during the Shale Gas development if it does actually take place. AW: The objective of this SEA is to do a pre-assessment of a gas pipeline corridor to facilitate the occurrence of gas being used as an alternate energy source. It is not specifically assessing shale gas exploration. This SEA is undertaken to ensure that the background work has been done and an environmental permitting process is streamlined if a pipeline network is to be constructed, once gas is found and is ready to be transported via transmission lines.
Mr. Mfundo: I support this project, we are aware of the crisis of water, but this project will create jobs, and we just want to know when this project will start because this is an opportunity for the Buffalo City Metropolitan. At least this Department is being proactive, and has told us about this project and its possibility in the future, and will also reveal to us what challenges we will face (in terms of impacts as a result of the project).	Note from the CSIR: Comment noted. It should be noted that any potential job creation would be during the temporary construction phase (if the construction of the proposed pipeline does materialise and the extent of such jobs would be determined per project, based on its business case).
NM: Is this development only happening inland/onshore or is it also happening in the sea/offshore?	TD: All the corridors are located onshore. This SEA will not assess any offshore activities related to gas exploration. The proposed pipeline will only be onshore as it will be easier to get to the market, and because of accessibility and maintenance issues. The costs are also lower when the pipeline is inland.
MR: The probability of load shedding being implemented may happen again in 4 to 5 years if we decide not to maintain the existing power stations, we do not have a shortage	SM: This process will consider the affected municipalities and will generally look at their capacity to deal with a proposed gas pipeline in terms of any risks and emergency events

Comments or Questions Raised	Responses
of power right now. South Africa has good environmental legislation but poor enforcement. In the event of a disaster, there is no clear way forward (for example, refer to the recent plastic pellet spill on the coastline). How will this pipeline be upheld to regulatory controls, especially considering the environmental constraints and potential hazards of this gas pipeline?	that may occur. AW: These types of incidents will be dealt with when a specific route has been chosen on a project specific basis, but will also be generally considered in this SEA Process, as part of the Environmental Management Programme (EMPr).
MR: With the pinch point analysis, have you considered environmental offsets because sometimes the cheapest route is selected, which may result in environmental impacts?	TM: This is a question which has been asked frequently. The SEA aims to reveal upfront which are the high and very high sensitivity areas, so that they can be avoided, and the analysis will give the least sensitive possible paths which can be considered for development. The SEA does not look at offsets, but the protocols (that will be compiled as part of this SEA) will guide the developers in terms of the level of site specific assessment that is required, and there might be recommendations regarding offsets within the protocols. AW: This SEA gives guidelines as to what routes to take (i.e. least sensitive) and what steps should be taken in order to achieve the Environmental Authorisation or approval, for developments within the corridors.
MR: In terms of environmental auditing, the developer should make a provision in their budget for rehabilitation and environmental reparation at the decommissioning stage. MR: This should not be a tax payers concern. Whoever benefits from the gas pipeline should be compelled and forced to rehabilitate the affected areas, and decommission correctly when required.	AW: That recommendation will be included in the generic EMPr and the responsibility will be with the developer or operator (in relation to the lifetime costs of the project, including decommissioning). TD: As part of the licence conditions to operate, an amount is set aside by developers for decommissioning procedures. DM and VZ: When applying for an operator licence with the National Energy Regulator of South Africa (NERSA), timeframes and conditions will be stipulated in the licence, including any decommissioning requirements. NERSA also looks at the value of the pipeline at the time of decommissioning, and the licence conditions will also be monitored in terms of how they are enforced and funds available for decommissioning will always be considered. Post Meeting Note: Current Environmental Impact Assessment Processes require acquisition of an Environmental Authorisation for decommissioning activities. The costs associated with the decommissioning will have to be budgeted for by any developer, so as to ensure compliance of the Decommissioning EMPr.

A.7.8.5.3 Gauteng – Johannesburg: 6 November 2017

Meeting:	Johannesburg Public Meeting: Meeting Notes		
Date of Meeting:	6 November 2017		
Venue of Meeting:	CSIR Offices, Corner Carlow and Rustenburg Roads, Johannesburg, 2001		
Duration:	17H00 to 19H00		
Attendees:	▪ Dee Fischer (DF) ▪ Tobile Bokwe (TB) ▪ Thabani Dlamini (TD) ▪ Annick Walsdorff (AW) ▪ Rohaida Abed (RA) ▪ Samukele Ngema (SN) ▪ Tsamaelo Malebu (TM) ▪ Norma Malatji (NM) ▪ Gabrielle Stein (GS)	▪ Lisa Opperman (LP) ▪ Judith Taylor (JT) ▪ Margie Pretorius (MP) ▪ Megan Murison (MM) ▪ Nuala Gage (NG) ▪ Pieter Ebertsohn (PE) ▪ Roger Rudd (RR) ▪ Reece van Buren (RVB) ▪ Ilonka Haylett (IH)	▪ Basie Bouwer (BB) ▪ T. Volschenk (TV) ▪ Chris Carnegie (CC) ▪ Zoezoe Radebe (ZR) ▪ Jeff Barbee (JB) ▪ Vusimuzi Zwane (VZ) ▪ Dumisane Mthiyane (DM) ▪ Busi Dlamini (BD)
Signed Attendance Register	Included as Appendix A		

1. Purpose of Meeting

An initial Public Outreach Process extending from 1 November 2017 to 13 November 2017 has been scheduled at various regions across the country to present the Strategic Environmental Assessment (SEA) and the initial draft Phased Gas Pipeline Network (PGPN) and Electricity Grid Infrastructure (EGI) expansion corridors to the public, as well as to discuss information requirements and feedback that is required by the SEA Project Team. The meeting was chaired by Mrs. Dee Fisher (DEA). Presentations were delivered as per meeting agenda below:

TIME	ACTIVITY/PRESENTATION	PRESENTER
17:00 - 17:15	Welcome and Introductions	DEA (DF)
17:15 – 17:30	Background on the Phased Gas Pipeline Network Corridors	iGas (TD)
17:30 – 18:00	Introduction to the SEA Process and Proposed Methodology	CSIR and SANBI (AW and TM)
18:00 – 19:00	Discussion, Way Forward and Closing	All

2. Comments Raised and Responses Provided:

Queries or Comments Raised	Responses
JT: What will the carbon footprint be and what restrictions will apply for farmers and other landowners?	DF: At this stage, the SEA Process is only pre-assessing the environmental sensitivity of 100 km wide corridors to inform planning of potential gas pipeline infrastructure and EGI. We are not assessing a specific route and therefore not undertaking land negotiations at this stage of the project. Those negotiations will be undertaken at a project specific level once a specific route for pipeline development is proposed. There is no carbon footprint being assessed as this SEA is strategic in nature and is not project specific. The development of each phase of the proposed pipeline network will depend on the gas demand and will be based on a business case. This SEA Process is undertaken prior to the development of the proposed gas pipeline. Gas is not seen as a near term realisation due to prices but it does not mean that we cannot start preparing. For example, it takes about seven years for a powerline to be developed under the Environmental Impact Assessment (EIA) Regulations, where a developer needs to assess alternatives, and then undertake negotiation with landowners. If there are any issues raised by the landowners, the process needs to be started again to determine another route. Therefore, for this Gas Pipeline SEA, we aim to look more strategically at the corridors in order to streamline the authorisation process. We are not looking at any potential of gas; we are only proactively assessing the environmental sensitivity for pipeline development. There is nothing planned for gas development currently except at the Ports; however in terms of Operation Phakisa it is required to be proactive to ensure that one is able to move quickly in terms of pipeline development when the economic opportunity arises.
MP: Government tends to undertake tasks in a piecemeal and disingenuous manner. For example, in KZN, meetings were held regarding the potential for fracking and it was mentioned that they are only exploring and fracking would not occur. However, why explore if there is no chance of fracking? The same applies to this SEA; why assess the corridors if you are not going to explore for gas and transmit it via pipelines? However, you need to look at the end goal of this process and assess it comprehensively, i.e. that there is going to be a gas pipeline and exploration. This should not be undertaken on a piecemeal basis.	DF: It is possible that Government did not present the option of fracking in KZN; it would have been the developer applying for an exploration permit. This SEA is only pre-assessing the environmental sensitivity (in terms of biophysical, social and economic aspects) of the corridors towards the development of a potential gas pipeline and does not consider any gas exploration activities. Offshore gas exploration activities will need to undergo a separate EIA process in terms of the EIA Regulations.
BD: How was this project advertised to the public and why was this area chosen for a public meeting? I found out about the meeting via a colleague. Consultation should be more focused on the people affected and should be accessible to all. Another meeting in Johannesburg should be considered (such as in Soweto). MP: Are you happy with the public representation at this meeting i.e. only 7 people not related to the gas industry?	DF: We are not happy with the representation at the meeting; however we are confident that we have done enough to inform the public of these meetings. It is important to understand that this is an SEA and not an EIA which assesses a project specifically and is required to undertake a regulated Public Participation Process in terms of the EIA Regulations. One needs to understand how consultation in this SEA Process is undertaken. We have set up a Project Steering Committee (PSC) and Expert Reference Group (ERG) and we will meet with these groups quarterly during the SEA Process. We will also undertake various focus group and sector specific meetings with key stakeholders. We are currently undertaking the first of two public and authority roadshow

Queries or Comments Raised	Responses
JT and MP: This project could have been advertised on the radio.	meetings across the country, from 1 to 13 November. There will be another round of public and authority outreach meetings. We have also published advertisements about one month ago in many newspapers across the country to advertise the public meetings. A dedicated project website has also been created and is updated regularly, which is available for public access.
JB: The numbers shown in the presentation for gas usage, exploration and planning are outdated and other studies done by the CSIR (two years ago) and the Nelson Mandela University (NMU) shale gas study should be considered. The shale gas area also shown on the map is different from the one identified by the NMU.	TD: The numbers in iGas presentation are estimated offshore gas resources and potential gas market, and do not represent Shale Gas resources. This SEA is not specifically related to shale gas exploration.
JT: Have you considered the impact of seismic drilling on the ocean?	DF: No. Any drilling activities related to offshore exploration will need a dedicated EIA and during that stage, there will be separate public participation meetings. This SEA is only high-level planning.
MP: South Africa should shift and advance to clean energy such as Europe. This process should describe the negative aspects of the pipeline, and not only the positives.	TD: Europe, for example, has a considerable amount of gas pipelines. We are trying to look for a mix of energy, and this is what the Integrated Resource Plan (IRP) is looking at. DF: We are trying to avoid areas of high and very high environmental sensitivity and therefore trying to avoid negative impacts.
CC: What is the project website?	AW: It is https://gasnetwork.csir.co.za/
CC: What parameters will be used in the Least Cost Path (LCP) Analysis and the complete engineering constraints; and what assumptions (such as diameter and trench size etc.) will be used to reduce costs and can this be shared with the public?	DF: We are not looking at the base case and costs. The environmental sensitivities and engineering constraints will be rated from low to very high. AW: The engineering constraints associated with constructing a gas pipeline are rated from Low to Very high. We are not looking at the specifics of the pipeline itself. For example, for slope: we are dividing it into four categories ranging from 0° to 45°, and the greater the slope, the greater the constraint. These constraints will be included in the SEA report and therefore shared with the public. The pinch point analysis looks at the best routing within the corridor based on the least sensitive areas and areas with the least engineering constraints. TD: The minimum assumption is to avoid fatal flaws and look at actual constructability of the pipeline. A constructability assessment will be undertaken on a project specific level.
CC: Has market analysis been completed? Is the DTI involved in this project?	TD: Studies have been done by iGas, the Department of Trade and Industry (DTI) and Transnet. The DTI study is mainly based on the KZN market, and iGas looked at Gauteng. The numbers included in the presentation might not be the latest but the aim was to show what has changed since 2014. The DTI is not an official project partner but they do share information and are registered on the PSC and ERG.
GS: In terms of the assessment of environmental sensitivity and constraints, you mentioned impacts on surface water; however will groundwater be looked at?	DF: There is not a huge amount of geohydrological information available. The pipelines are not that deep and not many towns are 100% dependent on groundwater.

Queries or Comments Raised	Responses
	AW: We do have a map on strategic groundwater and surface water source areas that we will consult with during the SEA Process.
JT: You should consult with the water caucus and SA Wetland Society.	AW: Noted
IH: How will the impact assessment be done, will cumulative impacts be considered and will there be a statement of cumulative impacts per province, and how will it be stated in terms of environmental and engineering constraints? Will the specialists assess cumulative impacts during the SEA Process? TB: To clarify the question asked by IH and JT, it appears like they are asking how will the impact of the pipeline going to be assessed after the SEA, once a project has been identified at that point in time. Thus our response should clarify the permitting processes following the SEA. IH: It is important that people are aware of what the actual impact of the actual pipeline will be. What happens after the gazetting process? Will it be integrated into municipal plans? We need to avoid a fragmented approach. SANBI has the information that is available and the specialists should consider it. There is a concern for the actual people on the ground that will be affected by the pipeline, especially landowners. This project should have the power to say what is to be done at a strategic level. JT: The concern is that the public's trust has been compromised. For example, consider Lephalale and the Waterberg, where the Government has been taken to court. There will be an impact on small communities unless they can appoint an NGO to help defend them.	DF: At this stage cumulative impacts associated with various types of potential development within the area (e.g. shale gas, gas to power, gas pipelines) will not be assessed. The objective of this SEA Process is to highlight least sensitive environments for the development of a gas pipeline network and EGI expansion and to implement the avoidance hierarchy (i.e. route the pipeline/powerline in low sensitivity areas). Once a corridor has been finalised and agreed on, it will be submitted to Cabinet for consideration and thereafter it will be gazetted together with Site Specific Assessment Protocol and the Norms or Standards. South Africa has an Environmental Assessment (EA) Process that is mandatory, and all listed activities, if triggered, will require an assessment of impacts. Therefore, the impacts will be dealt with in that specific EA Process. Once gazetted, this will result in a streamlined EA Process i.e. where the pipeline will be routed along a low sensitivity area, an EIA Process would not be required and the Norms or Standards would need to be implemented. For example, with the EGI SEA, Eskom now has the option to do a Basic Assessment and not an EIA, as they can now provide a pre-negotiated route within a pre-assessed area. There will still be a need to do some level of assessment, whether it be a compliance statement or BA, provided that the route is within low sensitivity pre-assessed areas. We have scheduled meetings to engage with the municipalities so that they become aware of the national planning in terms of the corridors, and to ensure that they use and consider the corridors in their planning. AW: Consultations and negotiations with the landowners will be done at a project specific level, once a pipeline is proposed to be developed along a specific route. If there are issues, the route can be changed within the assessed corridors. TM: What is being presented in terms of sensitivity features are just examples, and not the whole master database, other information is being considered and we are considering SDFs and local information.
BB: What will the width of the eventual corridor be?	AW: A typical operational servitude width will be 10 m and the pipeline will be routed in the middle. Additionally, a 10 m servitude does not prevent agriculture (but an engineering constraint would be deep rooted crops); however there will need to be agreement with the landowner in terms of maintenance; and this can only occur once a route has been identified.
RVB: To what extent can the corridor be used for other infrastructure?	DF: The SEA will only assess sensitivities towards the construction of a gas pipeline and powerline within the proposed corridors. Note from the CSIR: In addition, as part of this SEA, we will also identify developments that are less favourable in proximity to a gas transmission pipeline and these will be taken into

Queries or Comments Raised	Responses
	consideration when identifying the best routings for the gas pipeline. The entire 100 km wide corridor will not be sterilised, and the corridors can be used for other infrastructure.
MP: We would like to trust that this will be only done if it is beneficial. For example, the N2 Toll Road project is mainly about construction companies making money, and SANRAL has been taken to court many times. As DEA, you should be wary that this might all be about making money. As a country we should be looking at more autonomous localised energy planning and economy. I understand that your SEA is only assessing the sensitivities within the corridor and not assessing the project specific aspect of actually building the pipeline but it will be about clearing a way for the pipeline.	DF: Noted and the SEA will not consider aspects about financing the construction of a pipeline now. TD: This will only happen if there is enough business case and if there is a market. iGas will apply for funding for the construction of the gas pipeline and this will not affect tax payers.
ZR: From a social perspective, where would skills development be taken into consideration? MP: We previously did not see government providing any information about actual job creation. Also outdated systems are being used (such as the GDP).	DF: This will be considered once the project specific pipeline is being developed. TD: Through this process there has been discussion with the DTI regarding pipeline manufacturers in South Africa, and potentially looking at maximising the benefit for the country and job creation.
MP: What is the impact of our input? How will it be considered? So if you hear lots of people saying we need to assess the cumulative impact, as well as the impact of offshore drilling and shale gas, will you assess it?	Refer to the responses provided above regarding cumulative impacts. TM: We will determine the corridors based on what information we have and we will try to obtain other datasets that are required and have been recommended. DF: This should be a transparent process, and we will consider all possible recommendations. All comments and issues raised during the SEA process will be responded to and included in the SEA report. We will consider all issues raised and where possible implement them.
JB: It is obvious that there is a possibility that the pipeline will materialise, so we need to assess the carbon footprint and climate change. CSIR has done work on energy initiatives and carbon footprint and the cost of the different energies. This should be considered. You do not seem to have an accurate reflection of climate change that will occur as a result of the gas pipeline. Mapping habitat loss and destruction has already been done by SANBI on a national scale. MP: You could find the most appropriate corridors but the actual footprint of the pipeline is going to impact the environment detrimentally. JT: The SEA is an expensive and extensive project but one needs to have an idea of the carbon impact of these pipelines, which have been proven internationally as being high.	Note from the CSIR: This SEA will not quantify the carbon footprint of the proposed gas pipeline. This is understood to be addressed in the IRP. Climate change and carbon footprint issues will also be taken into consideration at project specific level, where applicable.
BD: There is an ethical responsibility in terms of what this project holds. From a consultation perspective, the meetings need to be more empowering so that you can help the public understand what this SEA Process is about so that they can spread the word, and it also needs to explain how the possible infrastructure will actually impact them.	NG: People might be more accommodating if you explain what maintenance and design will be implemented to make the pipeline safer. I personally would not mind having a gas pipeline in close proximity to my property as long as it is maintained correctly to ensure overall safety during operations. DF: Thank you for your feedback and comments. We will consider it and implement where possible, especially regarding consultation and making the presentation more accessible. There

Queries or Comments Raised	Responses
MP: The consultation needs to explain what the risks are to the people that live in close proximity to the pipeline and pigging station.	will be a second consultation at the end of Phase 2 and we will potentially look at an additional location in Gauteng, bearing in mind that the corridors occur across the country and there are budget constraints. However, with respect to the country's energy mix, it is recommended that the public get more involved in the integrated resource planning documents that are made available for comment. TD: The example of the Rompco pipeline was provided i.e. that it did not have a leak for a certain number of years.
MP: What is important is the EA Process that will follow the SEA, which overall is challenging for general citizens not familiar with environmental legislation. We need experts on the team to provide their feedback on actual environmental impacts. CC: In terms of constructive criticism, the IRP will be issued soon and the questions regarding gas versus coal will come up again during your consultation.	AW: Specialists will be contracted to assess the environmental sensitivities within the draft proposed corridors. Specialist reports will be available for public comment. During the permitting process following the SEA, appropriate specialist studies will be undertaken, where required, in line with the recommended permitting process. TD: We would appreciate everyone's inputs in this process, notifying us if we have missed something.

3. Way Forward and Closure

DF: The notes of the meeting will be finalised and distributed to the attendees along with the presentations given at the meeting. A Comments and Responses Report will also be compiled as part of the SEA Process, which will document the comments received during these consultations. Stakeholders can follow and access the website. The project team values your inputs.

A.7.8.5.4 KwaZulu-Natal – Durban: 7 November 2017

Meeting:	Durban Public Meeting: Meeting Notes		
Date of Meeting:	07 November 2017		
Venue of Meeting:	CSIR Durban: 359 King George V (5th) Avenue, Durban, 4000		
Duration:	17H00 to 18H30		
Attendees:	▪ Annick Walsdorff (AW) ▪ Samukele Ngema (SN) ▪ Dee Fischer (DF) ▪ Tobile Bokwe (TB) ▪ Thabani Dlamini (TD) ▪ Rohaida Abed (RA) ▪ Saneshan Govender (SG)	▪ Tsamaelo Malebu (TM) ▪ Nora Choveaux (NC) ▪ Laren Farquharson (LF) ▪ Ruwain Abrahams (RA1) ▪ R. Groves (RG) ▪ Marius Rossouw (MR) ▪ Warren Hale (WH)	▪ Shiven Panday (SP) ▪ Letsatsa Melato (LM) ▪ Rudzani Tshibalo (RT) ▪ Norma Malatji (NM) ▪ E. Richardson (ER) ▪ Kate MacEwan (KM) ▪ Vusimuzi Zwane (VZ)
Apologies	▪ Melanie Veness	▪ Frans van der Walt	
Signed Attendance Register	Included as Appendix A		

1. Purpose of Meeting and Agenda

An initial Public Outreach Process extending from 1 November 2017 to 13 November 2017 has been scheduled at various regions across the country to present the Strategic Environmental Assessment (SEA) and the initial draft Phased Gas Pipeline Network (PGPN) and Electricity Grid Infrastructure (EGI) expansion corridors to the public, as well as to discuss information requirements and feedback that is required by the SEA Project Team. The meeting was chaired by Mrs. Dee Fischer (DF) from the National Department of Environmental Affairs (DEA). Presentations were delivered as per the meeting agenda indicated in the table below.

TIME	ACTIVITY/PRESENTATION	PRESENTER
17:00 - 17:15	Welcome and Introductions Introduction to the SEA Process and Background on South Africa's Energy Planning	DEA (DF)
17:15 - 17:30	Background on the Phased Gas Pipeline Network Corridors	iGas (TD)
17:30 - 18:00	Introduction to the SEA Process and Proposed Methodology	CSIR and SANBI (AW and TM)
18:00 - 18:30	Discussion, Way Forward and Closure	All

2. Comments and Responses

Comments or Questions Raised	Responses
KM: Are we not already reaching our energy targets based on the existing energy programmes, considering renewable energy projects in place as well? As a country we should not want more than we need.	DF: At this point, we are not meeting our targets based on demand and we have a long way to go. In order to grow the economy; we need this energy linked to gas. In addition, the new Integrated Resources Plan (IRP) being developed will capture the demand and energy mix potential. TD: These corridors will only be developed if there is a business case for the proposed pipeline and there is a viable market that needs the gas. The pipeline development will be financed on merit with no cost to tax payers. RT: We must keep in mind that gas may in time replace energy derived from coal, but this would depend on the country's IRP, which is about to be promulgated in the near future. This is also due to gradual decommissioning of existing coal infrastructure and increase in electricity generation from natural gas in future. Based on the exploration outputs, the gas could also possibly be exported (if outputs are sufficient), as a business case is made for a business decision.
NC: What is the uncertainty with the Minerals and Petroleum Resources Development Act (MPRDA), and will the gas be exported?	TD: The MPRDA has not been finalised and that impacts on the way forward for development. South Africa does not have enough gas currently in order to export. South African is currently importing gas from Mozambique.
KM: Is this SEA only assessing the pipeline infrastructure required to transfer the gas or does it include an assessment of the sources of the gas, and all the factors surrounding this (i.e. adopting a cradle to grave approach, where the complete scenario is	DF: At this point, the SEA Process will only assess the sensitivity of the proposed corridors strictly for proposed onshore transmission gas pipeline infrastructure. There has been the Shale Gas SEA which was commissioned to assess the impact of shale gas extraction in the

Comments or Questions Raised	Responses
assessed). Which process will consider the impacts resulting from the actual sourcing of the gas? As a country, we should be alert and verify everything before accepting gas from other countries to ensure that the process of sourcing the gas has been carried out in a responsible manner from an environmental, economic and social perspective.	Karoo, which would require a separate permit process on a project specific basis. In addition, each offshore gas extraction activity to source gas will be subjected to a separate mandatory Environmental Authorisation (EA) and permitting process. There are two Environmental Impact Assessments (EIAs) currently underway for Gas-to-Power plants in Richards Bay and Ngqura. In terms of gas extraction from neighbouring countries, these would be governed by their relevant legislation. When the projects are funded (linked to the International Finance Corporation (IFC)), the funding is generally also conditioned on socio-economic requirements. VZ: As an energy regulator, the National Energy Regulator of South Africa (NERSA) does check for compliance and the viability of the source.
WH and KM: Why does the gas and EGI have to be 5 to 10 km apart? Is there a specific standard that requires this distance or is it a preference? This is a significant distance and ideally from an environmental perspective it would be best to have them closer together, considering that they are both linear structures.	TD and RA1: This is a minimum requirement due to an induced current that is created within the pipelines as a result of the transmission power line, which could lead to corrosion at a later stage. SP: It is advisable that the two forms of infrastructure are not too close together for safety purposes and from a cathodic protection perspective in terms of pipeline corrosion. In instances where there is a need, they can be closer for a short routing distance, and the 5 – 10 km distance is mostly a recommended guideline. VZ: We do not recommend that the gas pipeline and EGI are close together, even for short-distances, based on our experience as a regulator. SG: From a gas turbine perspective, the possible risk of having a power line far from gas infrastructure could be linked to possible ignition of a gas leak, thus preventing a fire. DF: If this is a concern and does not lead to enough low sensitivity routes, the pinch point analysis can shift the corridors into other regions. Note from iGas: The minimum distance for other structures from the pipeline is 1 km from high voltage electrical transmission lines and between 300 m and 500 m for other structures, depending on the diameter of and gas pressure in the pipeline. Research also points to factors e.g., the longer the two infrastructure run in parallel (in this case specifically gas and EGI) the higher the probability of electric current leakage to pipeline and also possibly during lighting strike. Consideration must also be given to the “burning radius” which means that, in the case of a pipeline leak and gas ignition, anything within that radius will burn immediately. This is about 800m (worst case scenario at ~ 100bar). Therefore, based on the above it is recommended that a “safety margin or factor” of at least 5x is applied to the 1 km stated – therefore 5 km distance is considered to be the safest distance from other structures.
NC: What was the reason for extending the EGI in the north of KZN, considering how sensitive the area is?	DF: It could be for the reasons of importing and exporting power to neighbouring countries. SP: We are aware that the Mozambican government is currently constructing a road from

Comments or Questions Raised	Responses
	Maputo to Ponta do Ouro that will reduce the travel time from Maputo to Kosi Bay to 90 minutes. This could have economic spin offs for this region. Hence this could possibly be the reason for the extension of the EGI. As mentioned however the business case would need to be tested. Post meeting note from the SEA Team: The extension of the EGI is to assess the corridors to the borders of South Africa, in case there can be business cases extending to Mozambique and Botswana.
KM: Powerlines is a concern for birds and to a lesser extent for bats. Pipelines are buried and are not a huge concern for bats; however the SEA needs to consider all terrestrial fauna, not just avifauna and bats.	AW: The SEA Process will include a Biodiversity Assessment Study which will include terrestrial and aquatic ecology (including ecosystems, flora and fauna). The terrestrial ecology will be split into the different biomes (excluding the forest and desert biomes). DF: SANBI is also finalising their species list, which is important for this SEA.
WH: In this mapping exercise how is the weighting of the sensitivities determined? It is important that the matrix and weightings are informed by specialists as there are some ecosystems that are very high sensitivity and protected.	AW: The specialists will go through the sensitivities and verify if it is indeed correct and then refine it where required. Therefore, the wall to wall constraints map might appear to be mainly high-very high sensitivity; however it will most probably be amended based on the specialist input. The specialist reports, together with the environmental and engineering constraints map, will be made available to the public and stakeholders for review during Phase 2 of the SEA Process. DF: In the Phase 1 SEA for Renewable Energy Zones, the process of how the matrix or certain sensitivity level was arrived at was transparent and included in the report. A similar process will be followed for this SEA and once finalised, you will be able to comment on the sensitivities and the specialist studies.

A.7.8.5.5 Northern Cape – Springbok: 8 November 2017

Meeting:	Springbok Public Meeting: Meeting Notes		
Date of Meeting:	08 November 2017		
Venue of Meeting:	Libra Hall: van Niekerk Street, Bersig, Springbok		
Duration:	18H00 to 20H00		
Attendees:	▪ Annick Walsdorff (AW) ▪ Samukele Ngema (SN) ▪ Simon Moganetsi (SM) ▪ Tobile Bokwe (TB)	▪ Tsamaelo Malebu (TM) ▪ Alfred Mocheko (AM) ▪ Neville Ephraim (NE) ▪ Rohaida Abed (RA)	▪ DGP Jacobs (DJ) ▪ Fhumulani Nenzhelele (FN) ▪ PJ Jacobs (PJ) ▪ Anushela Ephraim (AE)
Signed Attendance Register	Included as Appendix A		

1. Purpose of Meeting

An initial Public Outreach Process extending from 1 November 2017 to 13 November 2017 has been scheduled at various regions across the country to present the Strategic Environmental Assessment (SEA) and the initial draft Phased Gas Pipeline Network (PGPN) and Electricity Grid Infrastructure (EGI) expansion corridors to the public, as well as to discuss information requirements and feedback that is required by the SEA Project Team. The meeting was chaired by Mrs. Annick Walsdorff (AW) from the Council for Scientific and Industrial Research (CSIR). Presentations were delivered as per meeting agenda below:

TIME	ACTIVITY/PRESENTATION	PRESENTER
17:00 – 17:15	Welcome and Introductions	CSIR (AW)
17:15 – 17:30	Background on the Phased Gas Pipeline Network Corridors	iGas (NE)
17:30 – 17:45	Introduction to the SEA Process	DEA (SM)
17:45 – 18:15	SEA Process and Proposed Methodology	CSIR and SANBI (AW and TM)
18:15 – 19:00	Discussion, Way Forward and Closing	All

2. Comments and Responses

Comments or Questions Raised	Responses
DJ: Where is that gas coming from, and will you pay for the land through which the pipeline will go through? Is the proposed pipeline underground? Is SPLUMA included in the applicable legislation you are applying?	NE: The proposed gas would come from offshore resources. However, other possible sources of gas are from imported LNG and from Mozambique. The laying of the proposed gas pipeline would follow the normal servitude procedures and there would be negotiations with the land owners which are affected at the time. The final route selection will depend on these servitude negotiations and the obtaining of the necessary environmental approvals (which will be guided by this SEA Process). Most of the proposed pipeline will be underground (the top of the pipe being approximately 1 m deep), and only at the Pipeline Intelligence Gauge Stations (PIGS) will be above ground at selected locations. SM: SPLUMA will be addressed when we are looking at the provincial Spatial Development Framework Plans (SDFs). AW: In addition, zoning will also be considered on a site specific level once the route is identified. This will be addressed with the municipalities.
PJ: What uses will this gas have i.e. to warm houses or domestic use (such as in Europe) or only industrial purposes?	NE: The purpose of this proposed gas pipeline is to transport large quantities of the gas to various markets, what the receiver of the gas chooses to do with it is up to them and dependent on that business case. It can be used for gas to power at Eskom power stations or reticulated for residential uses (gas has many uses).
DJ: Is there still contestation over the legislation of the shale gas extraction and the moratorium which was imposed?	SM: The Department of Environmental Affairs will be taking over the writing of that legislation because the issues raised were of an environmental nature. It will therefore be handled by the

Comments or Questions Raised	Responses
	Department of Environmental Affairs (and not the Department of Mineral Resources).
DJ: What is the Government Gazette number of the EGI corridor and can you provide a copy to us?	SM: We can provide you with a copy of the EGI corridors Government Gazette.
DJ: Why is there no gas corridor in the middle of the Northern Cape?	SM: That is largely due to the presence of the Square Kilometre Array (SKA). A SEA was also undertaken and an Integrated Environmental Management Programme (EMPr) developed for the SKA in order to streamline their EA Process. AW: The proposed gas corridors follow the proposed phase gas pipeline network identified as part of Operation Phakisa and is mainly related to linking the points where gas can be landed to the main industrial centres. This also includes ports where LNG could be landed. We are looking at transmission pipelines for gas, not at a distribution pipeline network.
DJ: What contribution is there to skills development at local municipalities?	AW: There are two levels of skills development, the first being that related to the actual SEA Process, were there is an intern appointed for this project, and the second level achieved during actual development of the proposed gas pipeline, where there will be temporary jobs created during the construction phase. However the latter will be on a project specific basis once a route has been selected. As part of the SEA process, recommendations for skills development may be included in the generic EMPr for consideration by the pipeline developer. SM: On a project specific basis, there may potentially be opportunities for local markets and enabling local municipalities.
DJ: The Namaqua National (protected) Park is located within the proposed corridor and it covers an area of approximately 180 ha, and it is routed from the coast towards the inland. How will the park be impacted?	AW: It is planned to avoid protected areas and rate them with a (very) high sensitivity, as done for the Namaqua National Park.
DJ: This process is aimed at finishing around June 2018. Once the corridors are finalised and gazetted, what will occur if a mining company wants to prospect on a farm that lies within the corridor? You should also request the Department of Mineral Resources to send you a list of the proposed prospecting areas.	AW and SM: It is proposed to have the corridors finalised by mid- 2018. It would be best to locate the prospective mining before the corridors are finalised, however it does not mean that the mining cannot occur in the corridor, it just needs to be assessed in terms of its proximity to the proposed gas pipeline route. This process will only have legality once the SEA outputs and corridors are gazetted. Therefore, it is important that the municipalities consider the corridors in their future plans, and we will consider existing developments and future planning in the SEA (to ensure all potential contradictions and issues are being considered in terms of planning). We are planning to use existing data and information (such as SDFs), and using existing structures in place to engage with affected municipalities and increase awareness (such as MUNIMEC). TM: In terms of sensitivity mapping, current, prospective and abandoned mines will be considered.
DJ: The problem is that government departments do not seem to work together, i.e. the Department of Agriculture, Forestry and Fisheries (DAFF) and the municipal Disaster Management department, as well as COGTA are not present at this meeting?	AW: The district municipality, DAFF and COGTA are part of the Project Steering Committee. They were provided with a list of data we are currently using, as well as the information required by the team. They have also been invited to the Authority Meeting scheduled for 9 November 2017. Health and safety recommendations may potentially be included in the generic EMPr, and will be detailed on a project specific level and not at this stage.

A.7.8.5.6 Western Cape - George: 13 November 2017

Meeting:	George Public Stakeholder Meeting: Meeting Notes	
Date of Meeting:	13 November 2017	
Venue of Meeting:	George City Hall: 71 York Street, George, 6530	
Duration:	17H00 to 19H00	
Attendees:	▪ Annick Walsdorff (AW) ▪ Samukele Ngema (SN) ▪ Sujata Carlyle (SC) ▪ Tobile Bokwe (TB) ▪ Vincent Chauke (VC)	▪ Norma Malatji (NM) ▪ Neville Ephraim (NE) ▪ Rohaida Abed (RA) ▪ Fhumulani Nenzhelele (FN) ▪ Mike Young (MY)
Signed Attendance Register	Included as Appendix A	

1. Purpose of Meeting

An initial Public Outreach Process extending from 1 November 2017 to 13 November 2017 has been scheduled at various regions across the country to present the Strategic Environmental Assessment (SEA) and the initial draft Phased Gas Pipeline Network (PGPN) and Electricity Grid Infrastructure (EGI) expansion corridors to the public and stakeholders, as well as to discuss information requirements and feedback that is required by the SEA Project Team. The meeting was chaired by Mrs. Annick Walsdorff (AW) from the Council for Scientific and Industrial Research (CSIR). Presentations were delivered as per the amended meeting agenda below:

TIME	ACTIVITY/PRESENTATION	PRESENTER
17:00 - 17:15	Welcome and Introductions	DEA (SC)
17:15 – 17:30	Background on the Phased Gas Pipeline Network Corridors	iGas (NE)
17:30 – 18:00	Introduction to the SEA Process and Proposed Methodology	CSIR and SANBI (AW and NM)
18:00 – 19:00	Discussion, Way Forward and Closing	All

2. Discussion from the Presentation

Comments or Questions Raised	Responses
MY: You have left out a key component of energy supply: nuclear and nuclear fusion, which will be an integral part of energy provision in future.	SC: Noted with thanks
MY: Assuming that the proposed pipeline would be going through private land; would the land owners be given instructions of what can be done on the land above the pipeline and what to be done in terms of emergencies? A 1 m deep pipeline will not be sufficient in terms of the risk posed by veld-fires in the area, especially due to the recent fires in Knysna, where the level of destruction was vast. Another concern is digging up pipelines unknowingly, for example this occurred in Nigeria which resulted in many negative impacts. There should also be a clear instruction and notification	NE: It proposed that the pipeline will go through all forms of land (not only privately owned, and may include state owned land). The owners will be clearly informed of what procedures to undertake during emergency situations, as well as other terms of the servitude agreements. In terms of the impact of veld and forest fires, this will need to be considered in terms of the depth of the proposed pipeline however, the standards so far have stated 1 m. In terms of unknowingly digging up pipelines, markers will be placed every 1 km along the proposed

Comments or Questions Raised	Responses
to potential buyers, during any sale of land on which the proposed pipeline would be constructed, as well as specifying the location of the pipeline and its conditions.	pipeline route. Note from iGas: A subsequent conversation with CapeNature Fire Protection personnel confirmed that the temperature below a veld fire drops significantly as you go deeper into the ground. A pipeline 1 m below ground level will not be affected, unless there are ground fires, i.e., when the tree roots start burning. However, the avoidance of deep rooted vegetation eliminates this problem. This will still need to be confirmed through proper academic research and referencing. In the case of a land sale, the conditions will form part of the servitude agreement and potential buyers must be informed by the owner selling the land.
MY: There was a negative reaction on the fracking off the Southern Coast due to the environmental impacts of the project, and local environmental groups were not consulted with sufficiently. Considering the SEA will assess corridors for the potential construction of a gas pipeline network, it is important that environmental impacts are assessed and that local environmental forums are kept well informed about the project, as there are some well-informed groups in this part of South Africa that will react. It is important to have better consultation regarding this project in order to avoid the same result occurring. I will send you contact details of these forums that should be consulted (such as the Garden Route Group and Water Forums).	NE: The objective of this SEA Process is to pre-assess the sensitivity of the corridors from an environmental, social and economic perspective, together with engineering constraints to identify the most suitable routes within the corridors. The SEA Process will not include an assessment of any offshore pipelines or exploration, and will only look at the onshore gas pipeline network. AW: The contact details of the various local environmental forums would be appreciated. The engagement process will be re-looked at in terms of what needs to be done to improve it.
MY: When you say the EGI corridors have been gazetted, does that mean they are now accepted in legal terms? There could be a huge impact of these corridors and there has not been enough public engagement, as we have generally not seen the information about these projects previously. The proposed gas pipeline could also have a large impact on the tourism of the Garden Route. The need for this type of project is understood (as it could possibly see the reduction in need for long haul transmission lines), however it is very important that more people become aware of the project and become involved.	AW: The EGI corridors were gazetted last year and it does streamline the decision-making and application process, but it does not negate the need for Eskom to obtain an Environmental Authorisation or some level of approval from the Competent Authority. VC and TB: This Gas Pipeline and EGI expansion SEA will be undertaken using a similar methodology to that of the EGI SEA. The gazetted EGI corridors allow Eskom to streamline their EA Process and to submit to the Competent Authority a pre-determined and pre-assessed route within the corridors that has already been negotiated with the landowner (thereby reducing the possibility of changes based on landowner negotiations after an EA has been issued). This shortens the timeframe associated with the assessment phase, and provides an avenue for a quicker roll-out of the project. AW: Perhaps the EGI SEA did not focus on the George region because the corridor does not intersect with the area; however your concerns regarding consultation are noted. In terms of impacts to tourism in the area, it should be noted that the proposed pipeline would be underground, and there would be a very short term visual impact during the construction phase, therefore it is expected that tourism impacts would be less significant. VC: It is important to note that consultation during this SEA Process is ongoing and a comprehensive process and we will consider engaging with other groups in the area in order to make more people aware of the project. We have had meetings with other government stakeholders and we are attempting to get as many people involved and we are still in the

Comments or Questions Raised	Responses
	process.
MY: I have a concern that the municipalities may have a substantial input on the success of these projects; however you should be aware that municipalities tend to be governed by political parties and have differing agendas. For example, you should also be aware of the political issues which previously arose in the drawing of municipal boundaries in the Knysna area. Therefore, you should also listen to the affected citizens that would most definitely be involved in this project going forward. The presentations provided at the meeting today are good, and it makes one aware of the strategic level assessments and their relevance. I will definitely use your presentation to feedback to various local environmental forums (such as the Water Group) and spread awareness and get other people involved.	AW: Thank you, your comment is noted and we thank you for presenting this project at other local environmental forum meetings.

A.7.8.6 Notes of Public Outreach Roadshow – Round 2 for Stage 2 Consultation

A.7.8.6.1 Western Cape - George: 8 October 2018

Meeting:	George Public Meeting: Meeting Notes	
Date of Meeting:	08 October 2018	
Venue of Meeting:	George Civic Centre: Banqueting Hall, 71 York Street, George	
Duration:	17H30 – 20H00	
Attendees:	▪ Neville Ephraim (NE) ▪ Koketso Maditsi (KM) ▪ Annick Walsdorff (AW) ▪ Rohaida Abed (RA) ▪ Babalwa Mqokeli (BM) ▪ Fahiema Daniels (FD) ▪ Tsamaelo Malebu (TM)	▪ Professor Alan Fowler (PAF) ▪ Wendy Crane (WC) ▪ Advocate Thys Giliomee (TG) ▪ Lester Jansen (LJ) ▪ Alan Cave (AC) ▪ Luami Zondagh (LZ)
Signed Attendance Register	Included as Appendix A	

1. Purpose of Meeting and Agenda

The second Public Outreach Process extending from 8 October 2018 to 22 October 2008 was scheduled at various regions across the country to present progress on the Phased Gas Pipeline and Electricity Grid Infrastructure (EGI) expansion Strategic Environmental Assessment (SEA) Process, the draft findings of the Specialist Assessment studies, as well as the corridor refinement process. The meeting was chaired by Mrs. Annick Walsdorff. Presentations were delivered as per the meeting agenda below:

TIME	ACTIVITY/PRESENTATION	PRESENTER
17:30 – 17:35	Welcome and Introductions	CSIR
17:35 – 17:45	Background on the Phased Gas Pipeline Network and Expanded EGI Corridors SEA	CSIR
17:45 – 18:00	Pinch Point Analysis	SANBI
18:00 – 18:45	Biodiversity Assessment (Terrestrial and Aquatic Ecology)	CSIR and SANBI
18:45 – 19:15	Social, Planning and Disaster Management Assessment, Seismicity Assessment and Visual Impact Assessment	CSIR
19:15 – 19:45	Demand Mapping	SANBI
19:45 – 20:00	Discussion, Way Forward and Closing	All

2. Presentation 1: Background on the Phased Gas Pipeline Network and Expanded EGI Corridors SEA

AW provided a presentation on the background of the Phased Gas Pipeline Network and Expanded EGI Corridors SEA. The following comments and responses thereto were made.

Queries or Comments Raised	Responses
LJ: Is there a Socio-Economic Assessment being undertaken as part of this SEA?	AW: Yes, a Socio-Economic Assessment has been undertaken for the EGI component of this SEA, and a Social, Settlement Planning and Disaster Management Assessment has been undertaken for the Gas Pipeline component. We will present the findings of these studies during this meeting.
WC: Are there known potential landing points for gas coming from the offshore points?	NE: The initial corridors of this SEA were based on the original Phased Gas Pipeline Network identified by the Operation Phakisa A1 working group in 2014. The Namibian Government and Minister of Energy just released a press statement explaining that Kudu gas was considered for about 20 years and it is no longer deemed to be viable. However, there is a potential landing point at Oranjemund (on the Namibian side), for Kudu Gas to come onshore, and if that gas were to come to South Africa, then this would be Phase 6 of this SEA (i.e. from Abrahamvilliers Baai to Oranjemund). Abrahamvilliers Baai is the potential landing point for the Ibhubesi Gas project, although they have re-done their Environmental Impact Assessment (EIA), which now looks at a sub-sea pipeline that lands potentially at Saldanha or directly at Grotto Bay, which is required to supply gas to Ankerlig. This would involve about a 10 km pipeline to Grotto Bay. In addition, Phase 1a is routed from Saldanha to Ankerlig, and was conceptualised if Ibhubesi gas were to come onshore at Saldanha or if LNG were to be imported to Saldanha, or if there is potential gas on the West Coast to come onshore at Saldanha, which would be transported to Ankerlig and then along to Cape Town. The geology offshore indicates that there is potentially about 25 trillion cubic feet (TCF) of gas on the West Coast, a similar amount on the South Coast, and about 9 TCF on the East Coast.

Queries or Comments Raised	Responses
	Furthermore, Phase 1b is routed from Ankerlig to Mossel Bay. Mossel Bay is also a potential landing point for gas which will come from the offshore platform. Phase 2 is routed from Mossel Bay to Coega, which is also a potential landing point for offshore gas, and also a point for import of LNG. Further up the coast, around Richards Bay, Sasol and ENI are currently undertaking an EIA for offshore exploration along the coast of KZN. They are planning to commence with drilling sometime next year for gas off the East Coast, which will potentially land at Richards Bay. Phase 3 is routed from Richards Bay to Secunda and Gauteng. Phase 4 is also routed from the southern border of Mozambique to Richards Bay, to account for potential gas coming from the north of Mozambique via an onshore pipeline to Richards Bay. Phase 7 is a long term future option between Richards Bay and Coega and it would be considered if there is sufficient gas to satisfy those markets at either of the points. The Rompco Pipeline corridor, from Komatiepoort to Secunda via Gauteng and Mpumalanga, is also included in the SEA, to ensure that potential expansion of the existing Rompco pipeline is included (i.e. to include an additional pipeline within the same servitude). There is also potential Shale Gas from the Karoo, which was added to the SEA scope of work later to become more inclusive. It includes a small section extending from Beaufort West in the Karoo (Sweet Spot) to Mossel Bay. The SEA also includes an inland corridor between Saldanha and Coega, which was motivated by the Western Cape Department of Environmental Affairs and Development Planning (DEADP) to serve as an alternative to the coastal Phases 1 and 2 due to the high land use along the coast.

3. Presentation 2: Pinch Point Analysis

TM provided a presentation on the Pinch Point Analysis.

4. Presentation 3: Biodiversity Assessment (Terrestrial and Aquatic Ecology)

FD provided a presentation on the draft findings of the Biodiversity Assessment (Terrestrial and Aquatic Ecology). The following comments and responses thereto were made.

Queries or Comments Raised	Responses
AC: I did not see anything about climate in the presentation. Climate can play a great part in setting a biome, whereby there are many high drier areas and many storms and high rainfall at certain times. Will the climate be considered later in detail and would it work at a macro-scale? I am not referring to climate change, as that would come later. I am referring to existing climate. The climate has determined the land form and vegetation and when it comes to construction, climate would have an important role in terms of cost (as well as stability concerns etc.).	FD: The biomes rely on the geology and existing climate. This is how biomes are currently defined. In terms of cost, we considered a number of engineering constraints. For example, we obtained information from Eskom that indicates areas of high incidence of rainfall, snow, fire and lightning, and used this information to assess where the design of the infrastructure will need to be strengthened or reinforced. Post-Meeting Note by KM: Heat liberated from an underground gas pipeline is usually insignificant especially considering the gas temperature and pressure as well as the pipe specification (heat transfer coefficient, wall thickness and diameter). Therefore, temperature fluctuations in the soil due to that effect especially during freezing and drought periods over a certain area may have both positive and negative responses to the re-development of some vegetation over the trenched area. Potential positive vegetation responses to increased soil temperatures may include accelerated seedling emergence and increased production over the trench line. Potential negative vegetation responses to increased soil temperature may include decreased water availability and decreased production over the trench line which has the potential to permanently suppress the development of some vegetation. AC: If you are mapping high rainfall areas of a certain range, you need to get another series of maps showing you additional information over what you currently have, and this needs to be extrapolated in terms of the effect it will have on the construction and rehabilitation phases (especially in terms of flooding and erosion). AW: The Fynbos Assessment took into consideration the need to have efficient and effective rehabilitation in more wet areas than dry areas for example. This has been captured in the Risk Assessment of the Fynbos Assessment as well, whereby areas of higher risk were identified in terms of rainfall. FD: We also have information on areas that have high rainfall and high water yields, as well as areas prone to fire risk and snow, and these have been taken into consideration from an engineering constraints perspective (not necessarily from an environmental perspective, however it would be interesting to determine this).
LZ: From a biodiversity data perspective at this scale, it seems that there would be overlap of corridor areas that would not be suitable due to higher sensitivity for pipeline development. Taking into consideration all the different biodiversity factors, there seems to be some areas that are potentially sensitive on all fronts. What would the way forward be in that case (i.e. where the corridor has been defined but the entire area is deemed as high sensitivity)? LZ: Would local stakeholders be involved at that level in terms of consultation, once the corridors are approved? For example, once the corridors are approved at the national scale, will it mean that the entire corridor area can be used for development or will there be local consultation	AW: This is the reason for studying 125 km wide corridors. As part of the assessment, the location of the corridors will be optimised by ensuring that at least 75 % of the corridor does not include Very High sensitivity areas (i.e. a partial pinch point is defined as one that consists of about 65 % to 75 % of the corridor). If this is not the case, then the corridors will be realigned, if possible, to include some additional areas of lower sensitivities. AW: There will be further consultation by way of public review of the specialist studies once they have been finalised. Some of the specialist studies are still being subjected to peer review, whilst the majority of the studies have been finalised. The public review will form part of the consultation process of the SEA Process. Once the public review of the specialist studies is completed, the comments and inputs from stakeholders, as well as various other inputs (such as comments from specialists and

Queries or Comments Raised	Responses
in terms of various biodiversity assessments?	demand mapping findings) will be used to re-align the corridors to optimise their location. The final corridors will then be determined and released for comment via a gazette process that will be handled by the National Department of Environmental Affairs (DEA). Only 100 km wide corridors will be gazetted. The additional 25 km wide buffer areas are only assessed to ensure there is enough room to shift the corridors should pinch points be identified. Once the corridors are gazetted, it is predicted that only one potential route will be selected if there is a viable business case. At that stage, there will be consultation on a project specific basis.
PAF: Settlements have not been addressed yet in the presentations. Will it be discussed, because I assume areas of settlement will be avoided for the gas pipeline development?	AW: Yes, a Social, Settlement Planning and Disaster Management study has been undertaken and we will go through the draft findings during this meeting.

5. Presentation 4: Social, Planning and Disaster Management Assessment, Seismicity Assessment and Visual Impact Assessment

AW provided a presentation on the draft findings of the Social, Planning and Disaster Management Assessment, Seismicity Assessment and Visual Impact Assessment.

6. Presentation 5: Demand Mapping:

TM provided a presentation on the draft findings of the Demand Mapping.

7. Way Forward and Closure

Queries or Comments Raised	Responses
WC: Will the fine scale sensitivity maps be available on the website, and if so, when will they be available?	AW: Yes, it will be made available but not at this stage as the specialist studies and the mapping are still being finalised. It will be made available once the studies are finalised and once the corridors are gazetted. It will also be made available on the DEA National Screening Tool, which was recently launched to assist Environmental Assessment Practitioners and Developers screen proposed development areas in terms of sensitivities. It will include all sensitivity maps and features based on the latest data. At this stage, it is planned to use the Screening Tool for the Renewable Energy Development Zones and original five EGI Corridors to identify sensitivities and to confirm the protocols that need to be followed per development project. At the end of the screening process, a report will be generated that will be sent to the Competent Authority for consideration at the inception of the Environmental Assessment Process. It is understood that the Screening Tool will become a legal requirement.
WC: So to confirm, the fine scale maps are not publically available yet and would only be made available at the gazetting process.	AW: Yes, this is correct. In addition, the fine scale maps are still in draft stage and need to be updated and finalised, and will thus not be very useful at this stage due to the corridor realignment process. It will be released when the final corridors are gazetted. In terms of the biodiversity assessment maps, most of the data is currently available and has been sourced from existing sources. No new data has been generated, however in some instances the data has been modified whereby the sensitivity levels

Queries or Comments Raised	Responses
	have been verified by the specialists in terms of current land use. This is the case of the Indian Ocean Coastal Belt Biome Assessment, whereby the current data specified an area as a Critical Biodiversity Area (CBA) whilst the actual current land use is agriculture, and the current data has not been updated yet. However, this is not an official map yet, and would only be updated by the Provincial Government once a site verification is done. These fine scale specialist maps are used in the SEA to assist with the corridor realignment process, and to guide the Developer on where to route the line.

AW: The notes of the meeting will be finalised and distributed to the attendees along with the presentations given at the meeting. The presentations will also be loaded onto the project website. Stakeholders can follow and access the project website for project updates.

The meeting closed at 20H00.

A.7.8.6.2 Eastern Cape – Port Elizabeth: 9 October 2018

Meeting:	Port Elizabeth Public Meeting: Meeting Notes	
Date of Meeting:	09 October 2018	
Venue of Meeting:	BPO (Business Process Outsourcing) Park: Discovery Building, Zone 4, Coega IDZ, Port Elizabeth	
Duration:	17H00 – 20H00	
Attendees:	▪ Simon Moganetsi (SM) ▪ Neville Ephraim (NE) ▪ Koketso Maditsi (KM) ▪ Tobile Bokwe (TB) ▪ Annick Walsdorff (AW) ▪ Luanita Snyman-Van der Walt (LSVDW) ▪ Rohaida Abed (RA)	▪ Babalwa Mqokeli (BM) ▪ Tsamaelo Malebu (TM1) ▪ Khuthala Somdaka (KS) ▪ Thembinkosi Maduna (TM2) ▪ Vusimuzi Zwane (VZ) ▪ Letsatsi Melato (LM)
Signed Attendance Register	Included as Appendix A	

1. Purpose of Meeting and Agenda

The second Public Outreach Process extending from 8 October 2018 to 22 October 2008 was scheduled at various regions across the country to present progress on the Phased Gas Pipeline and Electricity Grid Infrastructure (EGI) expansion Strategic Environmental Assessment (SEA) Process, the draft findings of the Specialist Assessment studies, as well as the corridor refinement process. The meeting was chaired by Mr. Simon Moganetsi. Presentations were delivered as per the meeting agenda below:

TIME	ACTIVITY/PRESENTATION	PRESENTER
17:00 – 17:05	Welcome and Introductions	DEA
17:05 – 17:15	Background on the Phased Gas Pipeline Network and Expanded EGI Corridors SEA	CSIR
17:15 – 17:30	Pinch Point Analysis	SANBI
17:30 – 18:00	Biodiversity Assessment (Terrestrial and Aquatic Ecology)	CSIR and SANBI
18:00 – 18:10	Break	All
18:10 – 18:30	Biodiversity Assessment (Terrestrial and Aquatic Ecology)	CSIR and SANBI
18:30 – 19:00	Discussion	All
19:00 – 19:30	Social, Planning and Disaster Management Assessment, Seismicity Assessment and Visual Impact Assessment	CSIR
19:30 – 20:00	Discussion, Way Forward and Closing	All

2. Presentation 1: Background on the Phased Gas Pipeline Network and Expanded EGI Corridors SEA

AW provided a presentation on the background of the Phased Gas Pipeline Network and Expanded EGI Corridors SEA. The following comments and responses thereto were made.

Queries or Comments Raised	Responses
KS: What do the diagonal lines represent on the map?	AW: These are three additional EGI corridors that could potentially form part of the SEA. They are currently outside of the scope of work.
TM2: What are the timelines for the construction of the infrastructure?	AW: Construction would ultimately depend on developing a viable business case for each phase, i.e., finding a source of gas at one end with a confirmed offtaker at the other end. NE: There is an estimated timeframe of five years, including land owner negotiation in terms of servitude requirements. For the Rompco Pipeline in Mozambique, it took 15 months for the construction of a 130 km long section of the pipeline, considering that the Mozambican government owns all the land. For a 300 km line, we can estimate two to three years if there is a single construction front but less if there are multiple construction fronts. If construction needs to speed up, there is an option to establish more construction fronts or possibly start at both ends of the line and work towards the middle. In some cases, two contractors are appointed and incentives are provided to the one that completes the work faster. TB: An important point to consider is that the negotiation timeline should not be stated as one that is fixed. Negotiation can vary in terms of timeframes.
KS: Does the proposed gas pipelines add value or impact on Integrated Resource Plan (IRP) targets?	NE: It depends on where the power station will be located. Typically, the LNG to Power Programme works hand in hand with the IRP. That means that one would need to import LNG and build a power station. Logically the power station would need to be located closest to the point where the gas would be imported from, so that a long pipeline would not be needed from the receiving terminal to the power

Queries or Comments Raised	Responses
	station. When one wants to build markets beyond that; is when one would need the gas pipeline network. For example, at Coega the location of the power station and LNG terminal is already determined.

3. Presentation 2: Pinch Point Analysis

TM1 provided a presentation on the Pinch Point Analysis. The following comments and responses thereto were made.

Queries or Comments Raised	Responses
TM2: It seems that the wall to wall mapping was undertaken at a high level.	TM1: Yes, the wall to wall (negative) mapping for environmental and engineering constraints was undertaken for the entire country at a broad and high level. As an example, the environmental constraints wall to wall map included the identification of various environmental features on a natural, social and economic basis. The features were then ranked a preliminary sensitivity rating ranging from low to very high. The same process was followed for the engineering wall to wall map. A draft pinch point analysis was then undertaken to determine if the corridors needed to be shifted. The draft corridors and draft corridor environmental constraints map was then identified and used as input to the specialist studies. The specialists are currently going through the original sensitivity analysis and are refining the sensitivity ratings (i.e. either increasing or decreasing the sensitivity rating for various features).
KS: We understand the environmental constraints; however is there knowledge of engineering constraints within the corridors?	AW: We have compiled a draft engineering constraints map, which considers the impact that the environment will have on the infrastructure. It looks at environmental features that will serve as a barrier for the pipeline or result in a higher cost for the pipeline design and construction. For example, forested areas are considered an engineering constraint and have been allocated a very high sensitivity as a result of the impact deep rooted trees has on the pipeline.
LM: Was any consideration given to buildings and roads in the engineering constraints mapping?	AW: Yes, roads and buildings have been considered in the engineering constraints mapping. In terms of buildings, settlements have also been considered in the Social, Planning and Disaster Management Assessment, whereby they have been excluded with a buffer. In terms of roads, these have been considered as a pull factor for the gas transmission pipeline, where it would be preferred to build the pipeline as a close as possible to the road, but outside of the road servitude, taking into consideration the requirements of the road authorities (such as SANRAL and Provincial and Municipal Departments). However, the final Pinch Point Analysis will still need to be undertaken to refine the corridors, which will take into consideration all findings of the specialists, as well as inputs from stakeholders and specialists.
VZ/KS: What is the difference between the 100 km and 125 km wide corridors? Why do we not simply specify 125 km wide corridor?	TM1: The final refined corridors that will be gazetted will be 100 km wide. However, the 25 km has been included to allow a wider area for assessment and to manoeuvre around very high and high sensitivity areas.

4. Presentation 3: Biodiversity Assessment (Terrestrial and Aquatic Ecology)

LSVDW provided a presentation on the draft findings of the Biodiversity Assessment (Terrestrial and Aquatic Ecology). The following comments and responses thereto were made.

Queries or Comments Raised	Responses
LM: Is the risk assessment the same as the environmental sensitivity assessment?	LSVDW: The risk assessment is structured to consider the consequence of an impact and the likelihood of occurrence. We assume that consequence is higher in a Very High sensitivity area. For example, if a gas pipeline is constructed within Addo Elephant National Park, the consequence would be severe, but the likelihood of impact would be low or unlikely, resulting in a low to medium risk. In the Risk Assessment, risks are ranked both before and after the implementation of mitigation measures. The sensitivity analysis entails ranking environmental features from low to very high sensitivity. AW: If the gas pipeline were to cross a high sensitivity area, the management actions need to be detailed enough to ensure that the risk is acceptable. The example of routing a gas pipeline through a National Park is understood to be a controversial one due to many reasons. However, in some cases, it would be better to route the pipeline through a National Park, provided that stringent management actions are implemented. It would not be the first option or a pull factor; however the SEA Project Team needs to discuss this with SANParks. LSVDW: Yes, agreed. One would rather go through 50 km of National Park rather than routing the pipeline over 200 km to avoid the National Park and impacting on various other environments and ecosystems. TB: It acts as a deterrent. Sometimes, it might be cheaper to route the pipeline over a longer route as opposed to routing it over a shorter route. However all this will be determined in the Least Cost Path Analysis.
LM: For the construction of the Rompco Pipeline, was a similar Environmental Assessment done, and if so, has the study been taken into account in this SEA? LM: Cross border projects have different requirements. Can the tools of the SEA be used in Mozambique, for example?	NE: Yes, an Environmental Impact Assessment (EIA) was done for the part of the pipeline in South Africa in terms of South African environmental legislation. An Environmental Impact Study was also done for the section of the pipeline that runs in Mozambique in line with their legislation. AW: The SEA Process and outcomes will only apply to the corridors within the borders of South Africa. TB: If a developer were to develop a gas pipeline or EGI project within the corridors on their bottom line, a streamlined Environmental Authorisation process is anticipated for such development in South Africa. However, in Mozambique, for example, a normal Environmental and Social Impact Assessment would be required. This would have an implication when developers are applying for funding. In terms of the South African Power Pool, it is a legal requirement to meet World Bank and International Finance Corporation Standards. Therefore, there is a likelihood that the lenders and funders would not be comfortable with a streamlined process, which might delay the process. Therefore, there needs to be discussions with this sector in terms of the standardisation of requirements for assessment tools relating to funding requirements.

5. Presentation 4: Social, Planning and Disaster Management Assessment, Seismicity Assessment and Visual Impact Assessment

AW provided a presentation on the draft findings of the Social, Planning and Disaster Management Assessment, Seismicity Assessment and Visual Impact Assessment. The following comments and responses thereto were made.

Queries or Comments Raised	Responses
TB: The municipalities will expect the developers to contribute to ensure that their Disaster Management Plan is up to standard to deal with a gas transmission pipeline running through their municipality. What needs to be clear is the developer's responsibility in terms of a disaster.	AW: Noted.
TB: In addition, dry runs or emergency drills need to be done in towns to ensure that municipalities and the public are aware of the processes to follow should there be any incidents linked to the gas transmission pipeline. There will be a significant benefit in this, as opposed to simply informing the public of the Disaster Management Plan. SM: In consideration of the wide scope and 125 km wide corridor, this could assist other municipalities in development screening and understanding of the area.	AW: Noted.
TM2: The designation of Special Economic Zones (SEZs) could help with gaps in knowledge. SEZs have various zones of demarcation of industry.	AW: Noted. In the case of the Coega Industrial Development Zone (IDZ), we have considered the entire IDZ area in terms of industrial development. We have border of the IDZ area. If you have knowledge of a specific area within the IDZ and amount of gas required, you could send it to us for consideration. Post-Meeting Note from the CSIR: We have received the Industry Feedback exercise from the Coega Development Corporation.
LM: In terms of the Social, Planning and Disaster Management Assessment, there is an issue of management of land use and encroachment of existing pipeline servitudes by settlements. This is currently problematic. The lack of standards and management thereof from Authorities poses a greater risk to those pipelines. For example, settlements form illegally within the servitude with the expectation that alternative accommodation will be sourced for them. TM2: The pipeline should be reinforced when it is routed in proximity to settlements.	AW: Standards are being compiled as part of the SEA Process to guide developers in terms of the level of environmental assessment needs to be undertaken. There are international standards in place in terms of development of such infrastructure close to settlements. However, the issue of illegal encroachment is an important one for consideration. In terms of the Social and Planning Assessment, the problem of considering future informal settlements is the uncertainty of where they will occur. Post-Meeting Note from the Project Team: Following feedback and inputs gathered from this roadshow, the project team is currently looking at compiling standards for the development of gas transmission pipelines and EGI inside the gazetted energy corridors. Should this approach be successful, the development of the above linear infrastructure inside the corridors would be exempt from Environmental Authorisation providing compliance with the standards, These standards would first be gazetted for comments. AW: Noted, these design options will be considered by the developer.
TB: For example, with climate change, if the effects have not occurred or are unknown, the pipeline cannot be designed to address such issues. However,	AW: Noted. It might be possible to undertake a complete walk through and survey of the route and document the condition in terms of settlement prior to construction and clearing.

Queries or Comments Raised	Responses
land grabs and illegal encroachment cannot be ignored as they are real concerns with financial implications. It should be considered in the design now rather than retrofitting.	NE: In terms of the design, there are various standards and classifications (i.e. Class 1, 2 and 3) that provide recommendations for the design depending on the closeness and density of the settlement. The pipeline wall could be made thicker to cater for failure. If the pipeline is designed in terms of the highest class, to address the concern of land grabs, it might not be feasible. VZ: Implementing standards is fine; however we cannot predict the future, so we should follow the norms in terms of construction. Note that NERSA pays for the actual infrastructure that will be laid underground, and if the design becomes more stringent, then the cost of the gas will increase. TB: Noted, however the standard should be based on safety. SM: It is difficult to manage encroachment and it will require multi stakeholder alignment. TB: One needs to determine measures that will prevent people from encroaching in order to seek alternative accommodation or remuneration.
VZ and LM: At the end of the project, as you trim down the corridors from 125 km to 100 km wide, there might not be areas available in the future. VZ: Are existing developments taken into consideration in the 125 km wide corridor?	AW: It is important to note that the entire 100 km wide corridor will not be sterilised in terms of future development. The pipeline servitude will only be 10 m wide. Once the specific route is determined, this will be taken into consideration by the municipalities in terms of their planning. TB: Variables can change over the years, and issues might vary due to social changes. Post-Meeting Note from the Project Team: Existing developments within the corridor are considered in the SEA Process.

6. Way Forward and Closure

AW: The notes of the meeting will be finalised and distributed to the attendees along with the presentations given at the meeting. The presentations will also be loaded onto the project website. Stakeholders can follow and access the project website for project updates.

The meeting closed at 20H00.

A.7.8.6.3 Eastern Cape – East London: 10 October 2018

Meeting:	East London Public Meeting: Meeting Notes	
Date of Meeting:	10 October 2018	
Venue of Meeting:	Premier Hotel Regent, Marine Park Complex, 22 Esplanade, Beachfront, Quigney, East London	
Duration:	17H00 – 20H00	
Attendees:	▪ Simon Moganetsi (SM) ▪ Neville Ephraim (NE) ▪ Koketso Maditsi (KM1) ▪ Tobile Bokwe (TB) ▪ Annick Walsdorff (AW) ▪ Rohaida Abed (RA) ▪ Babalwa Mqokeli (BM)	▪ Luanita Snyman-Van der Walt (LSvdW) ▪ Tsamaelo Malebu (TM) ▪ Shané Gertze (SG) ▪ Mike Rivarola (MR) ▪ Mandlenkosi E. Matolo (MEM) ▪ Briant Noncembu (BN) ▪ Kagiso Mangwale (KM2)
Signed Attendance Register	Included as Appendix A	

1. Purpose of Meeting and Agenda

The second Public Outreach Process extending from 8 October 2018 to 22 October 2008 was scheduled at various regions across the country to present progress on the Strategic Environmental Assessment (SEA) Process, the draft findings of the Specialist Assessment studies, and to discuss the Phased Gas Pipeline and Electricity Grid Infrastructure (EGI) expansion corridor refinement process. The meeting was chaired by Simon Moganetsi of the National Department of Environmental Affairs (DEA). Presentations were delivered as per the meeting agenda below:

TIME	ACTIVITY/PRESENTATION	PRESENTER
17:00 – 17:10	Welcome and Introductions	DEA
17:10 – 17:20	Background on the Phased Gas Pipeline Network Corridors	CSIR
17: 20 - 17:50	Pinch Point Analysis	SANBI
17:50 – 18:50	Biodiversity Assessment (Terrestrial and Aquatic Ecology)	CSIR
18:50 - 19:40	Social, Planning and Disaster Management Assessment, Seismicity Assessment and Visual Impact Assessment	CSIR
19:40 – 20:00	Discussion, Way Forward and Closing	All

2. Presentation 1: Background on the Phased Gas Pipeline Network and Expanded EGI Corridors SEA

AW provided a presentation on the background of the Phased Gas Pipeline Network and Expanded EGI Corridors SEA. The following comments and responses thereto were made.

Queries or Comments Raised	Responses
MR: Will the gas pipelines transfer pure methane?	Post-Meeting Note from the Project Team: The gas transmission pipelines will transfer natural gas from one point to major users. Initially offshore gas was proposed as a source, and later additional potential sources were included. Overall the sources of gas include indigenous gas (i.e. both offshore gas and onshore shale gas), imported LNG (via Coega, Richards Bay and potentially Saldanha), and regional gas from Mozambique (Rovuma Basin) and Namibia (Kudu Gas). The quickest form is imported LNG. In terms of offshore exploration, this is not included in this SEA. This SEA only focuses on the onshore development of EGI and gas pipeline infrastructure.
MR: The presentation states that an area of 40 ha is required for substation construction, however this is too big.	AW: The size of the area needed for construction would have to be confirmed and updated. Post-Meeting Note from the Project Team: Transmission and distribution substations are required by Eskom and are being considered in this SEA. These may be long distances apart but can generate a relatively large local impact as they may be up to 70 ha in extent and usually also require borrow pits, construction camps, temporary lay down areas etc. during construction.
MR: How will the condensable material (condensate) from the pipeline and pigging stations, such as pigging waste, be disposed of in terms of the procedure and determination of risks associated with removing and transporting these products? MR: There would always be some condensates, which is why cleaning is undertaken.	AW: The understanding is that pigging is undertaken every five years, with removal, transportation and disposal done in an appropriate manner. However the concern is noted and will be included in the Generic Environmental Management Programme (EMPr), to ensure proper disposal. NE: The gas in the pipeline is dry and therefore no condensate material results. All the liquid from the gas is cleaned out at the central processing facility prior to the gas entering the pipeline. Wet gas is unwanted as a result of explosion problems. The pigging is not necessarily undertaken solely to clean the pipeline, it actually serves as an inspection. It is generally dry products that come out of the pipeline, and if it is wet then it is minimal. The development, however, will include Waste Management measures as part of the EMPr to ensure correct disposal of any material emanating from the pipeline.

3. Presentation 2: Pinch Point Analysis

TM provided a presentation on the Pinch Point Analysis. The following comments and responses thereto were made.

Queries or Comments Raised	Responses
MR: Some of the Gazetted EGI Corridor routes are a bit odd as they traverse areas such as Port Elizabeth and Umtata, which are areas without an industrial significance or presence and yet they bypass East London which has a much bigger industrial focus and base. The understanding is that Eskom has been creating a ring feed from Durban, and also constructing a 120/130 kV line down to East London and Port Elizabeth, however there is nothing indicated in this regard in terms of the routes. I believe that this line could be referred to as Neptune or Eros. From an industrial perspective, East London should have been considered in the gazetted corridors.	TB: The line development mentioned was possibly undertaken through an Environmental Impact Assessment (EIA) process prior to the promulgation of the corridors, as these were only gazetted in 2018 and would explain why the route selection did not necessarily follow the corridor route. The gazetted corridors are intended for future development, and existing lines are not depicted in these corridors and were subjected to a different permitting process. Post-Meeting Note from the Project Team: According to the Eskom Transmission Development Plan (2018 – 2027 (TDP, 2017), one of the major transmission projects commissioned in the last five years by Eskom is East London Strengthening of the Eros –Vuyani –Neptune existing line from KZN to East London. The EGI SEA that was commissioned in 2014, completed in 2016 and gazetted in 2018 was based on the latest TDP at the time i.e. 2014. Therefore, it is likely that the link to East London was not captured at the time.

Queries or Comments Raised	Responses
KM2: How will this (i.e. disposal of waste products from the pipeline) be done as environmental conditions vary in different areas?	NE: It is not necessarily the environmental conditions that would influence the amount of waste; it is the gas acidification in the pipeline that determines the specification. If it is dry gas then there is not much to be disposed of. TB: This level of detail would be required at the project specific level (if there is a business case). Waste disposal facilities would not necessarily be determined at this stage of the project, but at the stage determining the functionality of the project. This stage seeks to determine suitable corridors for the pipeline.

4. Presentation 3: Biodiversity Assessment (Terrestrial and Aquatic Ecology)

LSVDW provided a presentation on the draft findings of the Biodiversity Assessment (Terrestrial and Aquatic Ecology). The following comments and responses thereto were made.

Queries or Comments Raised	Responses
KM2: Please expand on the outsourcing of the specialists that undertook the various studies? How were they selected in terms of criteria and was there an element in place to account for transformation? KM2: Has there never been a concern regarding the perception of specialists appointed?	LSvdW: Specialists were appointed through an open Procurement and Tender Process under the Public Finance Management Act (PFMA), to which the CSIR subscribes to. This included the requirement to obtain three quotes from consultants, which were evaluated by the CSIR Strategic Procurement Unit and the Project Team through an 80/20 Framework Criteria (i.e. 80 % Price and 20 % BBB-EE). LSVDW: This is the first time that this point has been raised and it is noted, however a fair process was followed in appointing these specialists. In addition to specialists studies, this project, as well as other SEAs commissioned by the DEA, includes the participation of multiple stakeholders ranging from Community members to Authorities, to ensure it is as inclusive as possible.
MR: There is a concern in that a specialist might undertake a study in an area outside of their region, instead of the study being undertaken by a local specialist. When considering national studies, it would be a good idea to include local experts or compel partnerships of specialists with local organisations to prevent concerns that might arise regarding local understanding. This is a suggestion.	LSvdW: The comment is appreciated and has been noted. Specialists that are credible with expert knowledge of their respective fields were appointed for these studies. These studies are also being peer-reviewed and will also undergo a public review to ensure robustness and transparency. It is a participatory process to reduce any biasness. TB: It should be noted that the specialists were also contracted at the respective geographic location. AW: For the Biodiversity Assessment, the studies were separated according to Biomes and the Specialists undertaking the studies are those knowledgeable in the respective Biomes. The SEA also includes a number of institutions forming part of the Expert Reference Group, which play a key role in this SEA, therefore adding to the overall robustness of the process.
KM2: There are a few specialists that are part of the team that are mostly associated with a different biome than the one they are assessing in this SEA. However, the work has already been undertaken and not much can be done about it at this stage.	LSvdW: There is still opportunity to participate in the Review Process of the studies. TB: The message being communicated is that specialists within the Eastern Cape, for example, should undertake the relevant work pertaining to the Eastern Cape.

Queries or Comments Raised	Responses
	AW: Quotes were received from Specialists in Eastern Cape, however the CSIR has to follow a Procurement process and it came down to the cheapest quotation being selected.
BN: The key issue is around the skills and understanding that some people are experts in their fields. The fact that the studies were undertaken according to relevant biome expert knowledge is critical. Further added that a stranger remains a stranger and breeds discomfort in terms of local work being undertaken by non-locals, however the point that certain processes in procurement have to be followed is understandable. KM2: These questions are being asked as a result of the understanding of the dynamics on the ground, and the meeting would have taken a different direction if it was attended by a different category of stakeholders. Although the responses being provided are credible, it would not have been suitable for other stakeholders. It is therefore very important that these kinds of queries are noted and possibly attended to in terms of putting them forward to address a variety of stakeholder groups.	Post-Meeting Note from the Project Team: This comment is noted and appreciated. The CSIR was appointed by the DEA to undertake this SEA. The CSIR Project Team, as well as the Specialist Team, make it their priority to undertake this work in an independent, fair manner and with the highest level of integrity, to ensure that the objectives of this SEA are fulfilled in a responsible, efficient and effective manner.
SG: Were strategic water source areas included in the assessment?	LSvdW: Strategic water source areas have been included in the assessment. The chance of those areas being impacted is not high as these are mountainous areas that the pipeline development will aim to avoid.
MR: What is defined as Modified Landscape?	LSvdW: These are landscapes that have been transformed from their natural state. An example is a wheat field, where interestingly might not be of much value to a Fynbos biome but is important for blue crane birds, and the study therefore had to be cognisant of those trade-offs. Clear definitions are included in the Specialist Assessments.
BN: Are the sensitivity features based on the latest Eastern Cape Biodiversity Conservation Plan (ECBCP)?	LSvdW: Yes the latest ECBCP has been considered in this SEA. The latest draft 2017 version that is currently under review was provided to the Project Team by Dr. Greer Hawley.
KM2: Was a multi-criteria scoring system used in the sensitivity analysis?	TM: The multi-criteria decision analysis will be undertaken during the final integration of all the sensitivities. LSvdW: There was no weight assigned in the assessment, the weighting will be undertaken in the final routing stage. AW: The highest level of sensitivities is shown on the maps. For example, if it is a protected area, this is what is seen as Very High sensitivities. The Indian Ocean Coast Belt Biome specialists revised the pre-determined and estimated sensitivities to match what is currently happening on the ground in terms of habitat transformation and settlement encroachment. Post Meeting Note from the Project Team: These sensitivity levels will need to be verified by the data custodians before they are integrated onto the National DEA Screening Tool.
MR: What is the consequence of these studies, and will it impact on the licencing processes? Would there be a restriction for development outside the corridor?	SM: Development outside of the corridors is not restricted would follow the normal EIA legislation procedure at the time. The process does not determine No-Go areas. Once the corridors are gazetted, it would allow guidance in terms of identified areas for development and potential streamlining of the Authorisation process.

Queries or Comments Raised	Responses
	CG: The understanding is that an Application for Environmental Authorisation is still required outside the corridors. Post-Meeting Note from the Project Team: Following feedback and inputs gathered from this roadshow, the project team is currently looking at compiling standards for the development of gas transmission pipelines and EGI inside the gazetted energy corridors. Should this approach be successful, the development of the above linear infrastructure inside the corridors would be exempt from Environmental Authorisation providing compliance with the standards, These standards would first be gazetted for comments.
KM2: The analysis is very high level, and although an area may be regarded as highly sensitive, the findings might be different at a local level. It is also risky to grant exemption within the corridor, as sensitivity findings might differ at ground level.	LSvdW: The project team shares the same concern and therefore intends to develop either Standards or Protocols to guide the level of assessment required in these areas. There will always be a need to undertake field verification prior to development taking place.
KM2: The point in the presentation indicating that the Savanna is "difficult to establish after complete clearance" should be re-phrased. Savanna is second to grasses in terms of the ability to re-establish i.e. it is more resilient as opposed to other biomes such as the Thicket biomes. The statement is not 100% true and it needs to be re-worded.	LSvdW: The comment was noted and will be passed on to the specialist for consideration.
KM2: There is a concern regarding the scoring system not being used within a theme as it becomes difficult to rate the sensitivity. For example consider a rare endangered plant occurring on a slope with an erodible topsoil layer and one occurring on a low lying area with a more rigid top soil layer. This does not provide sensitivity per se and only indicates occurrence. There is a need to use a scoring system in terms of sensitivity within the biodiversity theme itself, which will indicate a sensitivity scoring for the theme that can be comparable to other themes when undertaking the overall scoring system.	TM: I understand the point raised. The depicted sensitivities relate to biodiversity assessments made up of different specialists with possible preferences in terms species and their sensitivities. Therefore a scoring system in terms of species or per ecosystem will result in challenges. A multi-criteria decision analysis will take place at a later stage, once the sensitivities have been stabled per theme.
MR: With regards to the Freshwater Assessment, is the Eastern Cape dominated by green-coded sensitivity possibly because there is no water in the area?	LSvdW: The green could indicate the lack of water pressures in the Province or possibly the lack of data.
MR: Regarding threatened aquatic species, is it in reference to fish in general or indigenous fish?	LSvdW: The assessment used the SANBI data that defines/classifies threatened aquatic species.
KM2: Do the Estuarine and Freshwater Specialists differ? There is merit in fostering communication between the Estuarine and Freshwater Specialists in terms of the process issue that needs to be considered, in terms of what happens from the river all the way to the estuary, especially considering the upstream impacts and its effect on the estuaries. The estuarine assessment could guide the freshwater assessment, and the communication would allow connectivity regarding the two themes with regards to sensitivity analysis. This would allow defensible impacts and mitigation measures.	LSvdW: The assessment is cognisant of the connection between the estuarine and freshwater environment. The two specialists have been in consultation throughout the assessment, and thus worked closely together in considering multiple aspects in each other's reports. Writing workshops were also as part of the assessment to allow identification of cross-cutting issues between the Terrestrial Ecology, Aquatic Ecology, Birds and Bats Studies. TB: Is this possibly a function of fitness for purpose of the riverine system? As the results should be a reflection of what is happening on the ground, and therefore if estuarine water is of a certain quality and organisms are still surviving, would that indicate an issue? As the presumption would be to aim to maintain the status quo.

Queries or Comments Raised	Responses
KM2: The reason for the statement is based on the two maps provided for freshwater and estuarine sensitivities, where there were more sensitivities in the estuarine part for the Eastern Cape than the freshwater, which gives an indication of a process issue. KM2: The reasoning behind the statement is based on problems with linear infrastructure development in the Eastern Cape, where the EIA only looks at impacts within the road system and does not focus on upstream and downstream impacts of nearby river systems (for example) and it is only after a while that there is a realisation that the rivers and estuaries are under pressure. The point is raised to provide awareness in terms of linear infrastructure developments and impacts. KM2: Would it then be correct to assume that the corridors which connect to some of the estuaries were considered in terms of the scoring system. That is, it rated each of the sensitivities of the corridors that connect to each of the sensitive estuaries?	MR: This statement should be made with cautioned because it implies that things are never going to improve because what is fed into the estuary by the upstream river determines whether the estuary is sensitive or not. TB: I am in agreement with the statement, and concur that the estuarine environment is an indicator of what is happening upstream. As soon as there is a risk of compromising estuarine function means that the management process upstream is no longer efficient. TM: The freshwater assessments were done at a Quinary level and the estuary assessments were done at the Estuarine Functional Zone level, where the one is undertaken at a coarse scale and the other at a finer scale, respectively. LSvdW: The point being made is valid and would need to be checked with the Freshwater and Estuarine Specialists. We also need to consider the number of Quinaries used in the Eastern Cape.
MR: Is there potential to use the studies that were conducted to assess the impact of Wind Farms on Bats, as most of the wind farms are located in the sensitive, red areas of the corridors? This should provide knowledge of the number of bat deaths as a result of wind farms. MR: Wind turbines have a huge impact on radar, within 5 km distance, and impact on bats in terms of the Doppler Effect.	LSvdW: The understanding is that there is not much evidence on Wind Farms and bat strikes, however this would need to be confirmed as it does not necessarily mean that bat strikes do not occur but that there is not much evidence in this regard. TM: The major concern for Wind Farms is for large birds. A webpage has been developed to monitor bird and bat strikes, to provide information on occurrence etc. AW: It is agreed that the main issue in terms of bats is the interference.
BN: Have studies been done relating to light pollution impact on nocturnal species? This is an important consideration as it relates to a change of the receiving environment.	LSvdW: Light pollution is considered as part of the Visual Impact Assessment.
KM2: Is there any feedback from Vulture Experts in terms of the powerlines?	LSvdW: The EGI areas only include the Northern Cape and KZN and do not necessarily affect the Eastern Cape vultures. In terms of the gas pipeline, it would mainly be an issue of habitat destruction (and not impacts relating to flight) and the assumption is that most of the vultures nest on cliffs and the gas pipeline development would avoid these areas for development. However the development would need to be cognisant of feeding grounds etc. for vultures. SM: The resolution for the Phase 1 Renewable Energy Development Zones (REDZ) SEA issues in terms of vultures was that the developer should make use of the Birdlife Guidelines, in order to determine mitigation actions. The indication was that there was a 12 month study undertaken in the Eastern Cape, and that monitoring would occur to update information and determine breeding sites for vultures. Ultimately the buffer around the roosts and colonies would be expanded to 50 km.
KM2: Is fire within the various vegetation types a function of sensitivity or constraint in terms of the gas pipeline? When the temperature of the ground increases due to the fire, will the pipeline pressure not increase?	AW and NE: It is not regarded as a constraint in terms of the gas pipeline, as the pipeline is approximately 1 to 2 m deep underground. Consultation with the Cape Nature Disaster Management teams indicated that within 10 cm below ground the temperatures return to normal for normal

Queries or Comments Raised	Responses
MR: A depth of 1 m is not that deep and there might be an issue of ploughing directly above the pipeline thus resulting in issues. KM2: It must be noted that the ground level changes, particularly in the Eastern Cape, as a result of erosion.	vegetation fires. Root fires would be different; however this development will not allow deep rooted vegetation above the pipeline within the servitude. NE: For example, Transnet usually keep their pipelines about 1.5 m or deeper below cultivated fields. However, 1 m is the norm.

5. Presentation 4: Social, Planning and Disaster Management Assessment, Seismicity Assessment and Visual Impact Assessment

AW provided a presentation on the draft findings of the Social, Planning and Disaster Management Assessment, Seismicity Assessment and Visual Impact Assessment. The following comments and responses thereto were made.

Queries or Comments Raised	Responses
KM2 on behalf of SG: Were Spatial Development Frameworks (SDFs) and future Conservation Plans taking into consideration in this SEA?	AW: Yes these were considered as part of the Demand Mapping, Environmental Sensitivity Analysis and specialist studies, as applicable and where the documents were available.
KM2 on behalf of SG: When will the specialist studies be released for stakeholder review and when will the SEA Report be completed? Will the specialist studies be placed on the project website?	AW: The plan is to have the SEA Report finalised around March – April 2019. However, the outputs of the SEA, such as the EMPr, Protocols and Standards will need a bit more time to finalise. We are currently awaiting a few specialist studies to be finalised and peer-reviewed and will therefore hopefully be available for stakeholder review by end 2018 or early 2019. Communication in this regard will be sent to all the attendees. The specialist studies will be uploaded onto the project website.

6. Way Forward and Closure

AW: Once specialist studies have been finalised and peer reviewed, they will be sent to stakeholders for comments and inputs. The notes of the meeting will be finalised and distributed to the attendees along with the presentations given at the meeting. The presentations will also be available on the gas network website.

A.7.8.6.4 Gauteng – Johannesburg: 15 October 2018

Meeting:	Johannesburg Public Meeting: Meeting Notes	
Date of Meeting:	15 October 2018	
Venue of Meeting:	CSIR: Corner of Carlow Road & Rustenburg Road, Auckland Park, Johannesburg	
Duration:	17H00 – 20H00	
Attendees:	▪ Dee Fischer (DF) ▪ Sipho Mokwana (SM) ▪ Neville Ephraim (NE) ▪ Koketso Maditsi (KM1) ▪ Tobile Bokwe (TB) ▪ Annick Walsdorff (AW) ▪ Rohaida Abed (RA) ▪ Babalwa Mqokeli (BM) ▪ Fahiema Daniels (FD)	▪ Tsamaelo Malebu (TM) ▪ Gideon Rooth (GR) ▪ Judith Taylor (JT) ▪ Valmak Mathebula (VM) ▪ Nuveshan Naidoo (NN) ▪ Matt Pretorius (MP) ▪ Nicolene Venter (NV) ▪ Mavisha Nariansamy (MN) ▪ Kambala Majiza (KM2)
Signed Attendance Register	Included as Appendix A	

1. Purpose of Meeting and Agenda

The second Public Outreach Process extending from 8 October 2018 to 22 October 2008 was scheduled at various regions across the country to present progress on the Phased Gas Pipeline and Electricity Grid Infrastructure (EGI) expansion Strategic Environmental Assessment (SEA) Process, the draft findings of the Specialist Assessment studies, as well as the corridor refinement process. The meeting was chaired by Mrs. Dee Fischer. Presentations were delivered as per the meeting agenda below:

TIME	ACTIVITY/PRESENTATION	PRESENTER
17:00 – 17:05	Welcome and Introductions	DEA
17:05 – 17:15	Background on the Phased Gas Pipeline Network and Expanded EGI Corridors SEA	CSIR
17:15 – 17:45	Pinch Point Analysis	SANBI
17:45 – 19:00	Biodiversity Assessment (Terrestrial and Aquatic Ecology)	CSIR and SANBI
19:00 – 19:10	Break	All
19:10 – 19:45	Social, Planning and Disaster Management Assessment, Seismicity Assessment and Visual Impact Assessment	CSIR
19:45 – 20:15	Discussion, Way Forward and Closing	All

2. Opening of the Meeting

DF opened the meeting and provided a background on the purpose of the meeting. The following comments and responses thereto were made.

Queries or Comments Raised	Responses
JT: Does this SEA discuss increased CO_2 emissions, because South Africa is a world leader in this regard.	DF: This will be discussed later during the meeting.
NN: What are the timelines in terms of the schedule for construction and progress for the pipelines?	DF: This is a forward planning process to identify environmentally sensitive areas should the proposed gas pipeline and EGI be developed. This SEA does not equal to or guarantee construction. This is not an Environmental Impact Assessment (EIA), which is based on a specific project. This is an SEA which is undertaken at a large strategic level and does not include ground truthing in all areas. The SEA itself will not be gazetted for implementation as it is an information gathering process that will result in Decision Support Tools. The Decision Support Tools, such as the Protocols, Environmental Management Programme (EMPr) and Norms or Standards will be gazetted for comment and implementation. The gazetting process is a long process and will be handled by the Department of Environmental Affairs (DEA). <u>Post-Meeting Note from the Project Team:</u> Construction would ultimately depend on developing a viable business case for each phase, i.e., finding a source of gas at one end with a confirmed offtaker at the other end. There is an estimated timeframe of five years, including land owner negotiation in terms of servitude requirements. For the Rompco Pipeline in Mozambique, it took 15 months for the construction of a 130 km long section of the pipeline, considering that the Mozambican government owns all the land. For a 300 km line, we can estimate two to three years if there is a single construction front but less if there are multiple construction fronts.
JT: Have you included the pipeline burst incidents that took place in British Columbia and California? South Africa is a dry country and if the gas pipeline explodes it will take out a large area. There are many recent gas pipeline events that took place globally that have resulted in large fires. JT: It should be noted that a disaster will happen when the Acid Mine Drainage comes into contact with the oil pipeline that is routed into Johannesburg. A disaster is really close to happening and nobody is taking any action.	DF: This is briefly addressed in the Social, Planning and Disaster Management Assessment, which will be discussed during this meeting. The Public Outreach meetings that are being undertaken as part of this SEA are aiming at gathering feedback from stakeholders and Interested and Affected Parties (I&APs). These comments will mould the process. As mentioned previously, this is only a forward planning process for potential gas pipeline infrastructure and EGI, and it does not mean that construction will happen tomorrow. AW: As part of the Major Hazard Installation (MHI) Regulations, a Quantitative Risk Assessment will be required. This can only be done once a specific project has been determined to go ahead (i.e. based on a viable business case) and once a pipeline route and technical design specifications have been determined. The Quantitative Risk Assessment will include modelling of the risk for various scenarios to determine the risk to surrounding land uses. AW: The Acid Mine Drainage is something that could possibly be taken into consideration in the engineering constraints.

3. Presentation 1: Background on the Phased Gas Pipeline Network and Expanded EGI Corridors SEA

AW provided a presentation on the background of the Phased Gas Pipeline Network and Expanded EGI Corridors SEA. The following comments and responses thereto were made.

Queries or Comments Raised	Responses
NV: How wide are the corridors?	AW: The corridors are 100 km wide.
NV: Are the EGI corridors designated for transmission and distribution power lines, and not just for the main transmission line?	AW and DF: It is planned to include both transmission and distribution electrical infrastructure within the Expanded EGI corridors.
JT: I am very concerned that the pipelines may be placed underneath or above rivers and estuaries, as this goes against the National Environmental Management Act (NEMA). South Africa is a water scarce country and we cannot afford pollution of our water resources. In the USA, there are a number of examples of events where there are cracks in the pipeline causing leaks and pollution of rivers.	AW: Are you referring to gas or oil pipelines? JT: I am referring to both. Methane gas pollution can cause a chemical reaction within the rivers. We cannot break the environmental requirements, which state that such pipelines cannot go near rivers and estuaries. AW: For crossing of rivers, wetlands and estuaries, where trenching is not possible, the pipeline construction method used will most likely be pipe jacking or Horizontal Directional Drilling (HDD). This is an alternative to trenching. NE: HDD would involve constructing the pipeline within a pipeline. The gas pipeline would be pulled through an already installed sleeve that would either be composed of steel or concrete. This will act as a protection measure against spills. <u>Post-Meeting Note from the Project Team</u>: HDD only uses steel as the sleeve. Apologies for the misinformation in the meeting. JT: Concrete does not work because it cracks. DF: Noted, this is one of the reasons that we are undertaking this SEA. We are noting down your concerns, and as part of the SEA, a Pinch Point Analysis will be undertaken that will aim to find at least five best routes for the pipeline and to target areas of least environmental risk. JT: The entire South African environment is at risk. DF: Noted, however suitable mitigation measures will be identified and recommended by the specialists to mitigate the risk. JT: Based on results that I have seen, mitigation does not work.
KM2: Will the pipelines transfer natural gas? How would a person link or plug into the pipeline?	NE: Yes, these are natural gas high pressure transmission pipelines that will be routed from the source to industrial areas, such as a Gas to Power Station. The demand areas have been identified and used in the conceptualisation of the initial Phased Gas Pipeline Network. Smaller scale distribution and reticulation gas pipelines are not considered within the scope of this SEA. Therefore the option for distribution to individual customers is

Queries or Comments Raised	Responses
	not considered here. However, if the distribution and reticulation pipelines were to be included in a later stage should there be development, Pressure Reduction Stations (PPS) will be constructed so as to reduce pressure from the main transmission line and a separate EIA for that construction will be required and is not covered in this SEA. However, it is possibly worth considering including at least the Distribution pipeline in the SEA as the environmental work has already been done. It is not advisable to include the Reticulation pipelines as well as these will go into densely populated areas, which the SEA is attempting to avoid.

4. Presentation 2: Pinch Point Analysis

TM provided a presentation on the Pinch Point Analysis. The following comments and responses thereto were made.

Queries or Comments Raised	Responses
NV: If a proposed power line cannot be routed within the Expanded EGI corridors, can it be routed outside of the gazetted corridors?	DF: Yes, it would still be allowed outside the corridors, it would just mean that the normal EIA Regulations would apply and an Application for Environmental Authorisation would need to be made, followed by a decision that would be issued by the Competent Authority. In addition, the Draft Pinch Point Analysis has determined that there is opportunity for routing the EGI within the corridors.
GR: In the environmental and engineering constraints, was landownership included as part of the sensitivity analysis? I am not sure how you would go about this but I know that this project may upset people in certain areas.	DF: Landowner negotiation has not and will not be undertaken as part of this SEA Process. Landowner negotiation can only be done once a project has been determined to proceed, which will be based on a viable business case, and once a potential route has been identified. The aim of this SEA Process is to allow the developers to put forward a pre-negotiated route and do the necessary discussions upfront, which is not allowed for in the current EIA Regulations. Once the corridors are gazetted, if the developer identifies a route within the pre-assessed corridors and begins negotiations, and if the negotiations are stalled or no longer viable, then the developer would need to find an alternative route within the pre-assessed corridors. The SEA Process will allow discussions with the landowners to avoid any issues and blockages.
NN: What is the source of data for the threatened species used in the environmental wall to wall mapping?	TM: The Threatened Ecosystems layer was used. FD: Threatened species has a range of different data sources. We have obtained this information via the SANBI Threatened Species Programme, which is a foundation that consists of a network of partners. We have also obtained information on mammals from the Endangered Wildlife Trust (EWT). The information is not protected, and one does not have to pay to access it. It is available upon request and one would need to enter into a data sharing agreement as some of the information is sensitive.
JT: Eskom is not maintaining its current grid. This is a concern, and is very evident in Gauteng. The pylons are rusting and in high danger of falling. How will Eskom fund this	DF: Decisions, recommendations or predictions for gas are not being made as part of this SEA Process. Gas is in the Integrated Resources Plan (IRP) and we are only looking at the

Queries or Comments Raised	Responses
additional EGI Expansion? JT: The town of Beaufort West has been without water for over a year. Why is a link to the Shale Gas area included in the SEA?	corridors to facilitate the process if the gas is found. We are in no way influencing if shale gas goes ahead or not. We are only undertaking this study to identify environmental and engineering constraints to assist with the planning of potential gas pipeline infrastructure and EGI should it materialise. This SEA is only undertaking forward planning. In terms of Eskom's grid, Eskom will only build the EGI within the corridors if there is a need to. This SEA is only undertaking the planning and pre-assessment work to facilitate the process down the line. The outcome of this SEA does not mean that if the corridors are gazetted, there will be new power lines; it just means that if the power lines are required, these are the areas that it would most likely be constructed in. JT: Then why would you do this SEA anyway? DF: It is important to point out that this planning is being undertaken with the environment in mind. One of the key points that the DEA has realised over time is that unless developers plan with environment in mind, it is not really considered. Therefore, as part of this SEA, environment is brought to the forefront as a priority in planning. This SEA is being done as there is a chance that gas might be found, and there might be a need for EGI in the future. Once these needs and gas finds materialise, there will be a demand for such linear infrastructure being assessed as part of this SEA. One of the outcomes of this SEA would be to ensure that environmental approvals for such infrastructure within the corridors are not a cause for delay towards development, whilst still maintaining environmental rigour. NE: The inland corridor, linking to the Shale Gas region, was included in this SEA based on feedback from the Western Cape Department of Environmental Affairs and Development Planning (DEADP), who mentioned that the coastal route between Cape Town and Coega is constrained due to the high land use along the coast, and therefore requested the inland route to be considered. As an add-on to this, the inland route happens to link to the shale gas region.
MP: It seems like one benefit of this SEA is that power lines below a certain voltage do not actually require an EIA and if some of these smaller distribution lines are planned within the EGI corridors then at least there is an advantage in the form of an environmental sensitivity assessment that has been undertaken as part of the SEA. This will inform the power line routing, which could be useful.	DF: Noted.
MP: There is one corridor proposed from Richards Bay to Mozambique, and another corridor planned from Gauteng to Mozambique going past Komatipoort. It looks like these corridors are essentially servicing the same part of Mozambique. Why are two access points to Mozambique required, especially if you can potentially avoid the pinch point in Northern KZN, which is a very highly sensitive environmental area?	NE: Thank you for this good point. At this point in time, there are significant amounts of gas that has been found in Northern Mozambique, specifically at the Rovuma Basin. There is also a proposed pipeline that is planned from Palma to tie into the Rompco Pipeline at the Central Processing Facility and then routed into South Africa at Komatipoort. The Mozambicans also want to continue that line down to Maputo, and if that takes place, there is an option to continue the line into Richards Bay via Phase 4. However, if Phase 4 is no longer viable due to various constraints, then it certainly will be an option to import

Queries or Comments Raised	Responses
	Mozambican gas via the Rompco corridor and then bring it down to Richards Bay via Phase 3. At this stage, only the planning is being undertaken. Phase 4 might not go ahead due to the reasons mentioned, however if we manage to find a suitable route within Phase 4 it would certainly be a cheaper option for the customer. <u>Post-Meeting Note from the Project Team:</u> The corridor routed from the border of Mozambique to Secunda and Gauteng via Mpumalanga is required should there be a need to supplement the existing Rompco pipeline. Phase 4 is routed from the southern border of Mozambique to Richards Bay, to account for potential gas coming from the north of Mozambique via an onshore pipeline to Richards Bay.
MP: However costs have not been mentioned yet?	NN: It is important to note that if you want to make maximum use of the asset (i.e. the pipeline), then you would want to have maximum compression. The best way to achieve this is to allow gas to be fed in from many parts. If you just have one long pipeline that is only receiving gas from one end, there will be reduction in pressure all along the pipeline. Whereas if you could feed gas from both sides of the pipeline then you could get maximum usage of that asset. MP: So in other words, in this case, the pinch point is not the issue, the maximum use of gas is? NN: This is only one issue. That is why gas engineers like to have loops and interconnections in the pipelines. Currently, in my opinion, the pipeline coming in to Secunda cannot be called a network. This is only a one way line, and if everyone needs to benefit from the gas economy then we will need gas going in at all directions. AW: The cost is considered in the engineering constraints mapping exercise at this stage. MP: So the pinch point in Northern KZN in Phase 4 would include cost and environmental constraints? AW: Yes, it did consider both environmental and engineering constraints.
MN: We should be careful of trade-offs as we are only at the planning stage now. I note your explanations about having a network and feeding in from multiple sections however, this is an SEA that is planning with the environment in mind. If we have the environment in mind, some of the issues will not apply. When the pinch point analysis was discussed some of the challenges mentioned were development based and driven economically. The motive of this SEA should be remembered. I am personally not against development and I am completely for planning for development sustainably and holistically. However, if there is an option to limit impact, then this option should be selected. The option of feeding gas in one direction should be selected if it has a limiting impact.	TM: It is important to note that the specialists are playing a role in refining the corridors. The wall to wall environmental constraints formed the initial rating of environmental sensitivities. The specialists are currently revising these sensitivity ratings by increasing or decreasing the sensitivity ratings that were initially assigned. For example, in the initial wall to wall environmental sensitivity mapping, a single sensitivity rating was provided to all wetland types. However, the specialists will refine this accordingly. The specialist refinements will be considered during the second pinch point analysis, which will also include the findings of the demand mapping and comments from the stakeholders. You will see some of the initial specialist refinements in the following presentation.

Queries or Comments Raised	Responses
KM2: Who will own the pipeline and who will invest in it? If a person raises the required amount of money, will they be allowed to branch into the gas pipeline, and serve as a potential customer? Does this SEA cover smaller customers? Does this SEA only cover piped gas or does it include processing of the gas into other by-products?	NE: Anyone that wants to build a phase of the gas pipeline network can go ahead using the tools and outcomes of the SEA. There, however, needs to be a viable business case, a guaranteed source of gas and a demand. Since these are transmission pipelines, one would need an anchor customer, which is generally a large customer that uses gas (such as large industrial and energy sectors, for example, in Secunda there is Sasol) and from there it goes to the smaller customers. Whatever the source of the new gas is, whether it be imported gas from Mozambique or imported LNG, it will go to a large baseload customer first, and from there it will go to heavy industrial users, light industrial users, commercial users and then into reticulation, and even applications such as transport (e.g. Compressed Natural Gas (CNG) and LNG in vehicles). So overall, the use of the gas is not limited but this SEA is only considering high pressure transmission gas pipeline infrastructure. If you anyone wants to process gas, then a separate EIA would need to be undertaken for that specific process (which is outside of the scope of this SEA). The developer will own the pipeline and invest in it (not government and hence the taxpayer). If iGas as a government company (SOC) is the developer, iGas will fund the project via equity (iGas' money) and project finance (bank loans). Each phase of the pipeline will only be constructed based on a viable business case (a guaranteed supply of gas and a guaranteed customer for the gas). iGas will then finance the specific phase of the pipeline and recover its investment by charging a tariff for the transportation of the gas. The tariff is regulated by NERSA (National Energy Regulator of South Africa). DF: The SEA only looks at transmission of gas via a transmission pipeline, and excludes processing and beneficiation. The SEA also does not cover compressor stations as these are not required during the initial stages of establishing a pipeline network. It would only be required when the capacity of the pipeline needs to increase, and at that stage a separate Environmental Assessment Process would be required. In addition, the outcomes of this SEA, such as the standards and potential exclusion from an Environmental Assessment process within the corridors, will not only be for the benefit of iGas. Everyone is eligible for these benefits within the corridors.
KM2: Will the public have access to these presentations?	DF: Yes, the presentations delivered at the meeting will be uploaded to the project website and will be emailed to the meeting attendees. The website does not require any registration; it is an open site. One of the key aspects of this SEA is its transparency. Obviously some of the sensitive species information cannot be made available. In addition, the specialist studies will also be uploaded to the project website for public review, once they have been finalised. AW: The mapping KMZ files of the draft refined corridors are available on the project website as well. DF: The National DEA has developed, in a parallel process, a web-based environmental

Queries or Comments Raised	Responses
	Screening Tool that has been launched for optional usage; however it will become compulsory in the future. The Screening Tool has all of the necessary environmental information available for mapping and most of the information can be downloaded. One of the aims of the Screening Tool is that all parties in the sector use the same and most updated information. Some of the information might be data heavy, and you might have to contact the DEA to source such data. The intention is to make the environmental data freely available so that all users are aware of the environmental sensitivities. Post-Meeting Note from the Project Team: The Screening Tool is a mapping platform that assists developers and Environmental Assessment Practitioners with mapping proposed project layouts in order to determine and avoid high sensitivity areas, as well as fatal flaws.

5. Presentation 3: Biodiversity Assessment (Terrestrial and Aquatic Ecology)

FD provided a presentation on the draft findings of the Biodiversity Assessment (Terrestrial and Aquatic Ecology). The following comments and responses thereto were made.

Queries or Comments Raised	Responses
NV: Did the specialists consider medicinal plants that only grow in specific areas (such as the West Coast up to the Namibian border) and cannot necessarily be translocated?	FD: The SEA has considered endemics and since medicinal plants are endemic, the assumption is that they were considered.
MP: What do the grey areas in some of the maps indicate? MP: How do you handle the data gaps, especially in cases where you know a specific species occurs in an area but there is no data for that particular species and there is data for other species that are not really of concern and are of low sensitivity? One of the key problem areas is that you then do not know the locations of some sensitive species, so some of the areas would be assumed to be of low sensitivity until the information becomes available. Is it not worth it to identify some of these species and commission the necessary projects as part of the project within the timeframes of this SEA in order to address the data deficiencies and establish a more complete dataset? MP: So if the areas of no data are so small that you cannot see it at this scale for that specific biome, for example, would it not be worth assessing this information and raising a small project within the timeframes of a few months to undertake an expedition to source this information for the mapping as part of this SEA? Is there scope to collect more data or is it not possible at this stage of the project?	FD: These indicate other biomes, and can be seen clearly in the maps for the Albany Thicket Assessment. In the Aquatic Assessment maps, the grey areas indicate “no data”. FD: These grey areas are for the specialist assessments and it shows where the specialists themselves do not have the data. At this scale, it does not appear to be large areas of missing data. There might be tiny sections where there are data gaps but largely data is available. DF: There were two other SEAs which were undertaken that did include data collection because the areas were not very well studied. However, for this SEA, the wall to wall analysis has been undertaken and no large data gaps were established, and thus data collection was not required. FD: For many of the specialist assessments, they did note where many of the threatened species are located. If the specialists go back to all the sites, they are not going to find the information in one day. It takes a long time to get the data and in some areas it might take five years. These can be part of the recommendations coming out of this SEA. In addition, where there was Provincial information available for Critical Biodiversity Areas it was also considered in the SEA, as well as SANBI Threatened Species data. We have also enlisted the specialists to supplement some of the information as well.

Queries or Comments Raised	Responses
	MP: I agree that it takes a long time to get the data. I was just looking at the map in particular and could not see any grey areas and it would be a shame if there was one small sub-quaternary that did not have data. FD: It might have been the case for this individual phase, but when the specialists pull together the data they might have had some of the data for the different phases and might not have had, for example, amphibian data for every single sub-quaternary. AW: It is important to note that one of the outcomes of the SEA Process is that it will be non-negotiable to undertake site verification prior to construction to ensure that the sensitivity levels assigned as part of the SEA are still valid on site. This can only be done once there is a specific pipeline route planned. Therefore, data gaps could be addressed at that stage of the process (i.e. subsequent to the gazetting process but prior to construction). MP: Will the map then be updated according to the site verification that will be done? DF: It is still being discussed. In the Screening Tool, we wanted to create a "grey layer". So for example, if a specialist goes out to site and establishes that the condition of the environment on the ground is not as it appears on the Screening Tool, then the specialist would be able to upload their findings on the grey layer and the custodian of such data would then be able to look at it and verify it. This is still under discussion within the DEA. It is important that qualified experts and specialists undertake the site verification and upload this information so that the information has a high level of certainty. FD: Specialists currently identify different features in the landscape and assign sensitivities. So if something is not a Critical Biodiversity Area now but it becomes one in the future, the sensitivity would still hold. If something is sensitive because of the location of the sensitive species and you only find it in 10 years' time, for example, it gets the sensitivity level that was assigned by the specialists, until verified. MP: I am just considering the field validation of the sensitivity maps. Obviously field validation cannot be done now for the whole country but if you have opportunities to do site verifications for certain projects, why not collate all of the information and look retrospectively at the maps to see how accurate the original maps were? FD: Some of the input used in the specialist assessments, such as for the Rivers, Wetlands, and the National Vegetation Maps, have their own accuracy assessments. In addition, the routes have not been selected yet, so it is not possible to do effective field verification at this stage, as there is a risk of focussing on certain areas where the pipeline may not eventually traverse. Field verification is something that can only be done at a later stage.

6. Presentation 4: Social, Planning and Disaster Management Assessment, Seismicity Assessment and Visual Impact Assessment

AW provided a presentation on the draft findings of the Social, Planning and Disaster Management Assessment, Seismicity Assessment and Visual Impact Assessment. The following comments and responses thereto were made.

Queries or Comments Raised	Responses
JT: Are you aware that not one single municipality in South Africa has an operational Disaster Management Plan in place? The City of Johannesburg and Tshwane do not have Disaster Management Plans, and none of the small municipalities have one either, which is a huge problem. Even NECSA at Pelindaba does not have a Disaster Management Plan. There was a major incident in Pretoria a few months ago.	AW: The information gathered by the specialists on Disaster Management Plans portrays a different status quo; however capacity constraints have definitely been highlighted in the specialist assessment. The Disaster Management study considered firefighting capabilities of the affected municipalities falling within the corridors. This was used as a proxy for current Disaster Management capabilities and it was based on available information at the time of undertaking the study. The study highlights a wide range of capability and capacity levels, and various gaps. This will definitely be considered if and when a pipeline route has been identified. However, it is important to note that the developer would need to support the municipalities to ensure that they have adequate capacities and capabilities in terms of Disaster Management.
KM2: You mentioned other municipal services and activities that might unintentionally clash with the gas pipeline. Would this gas pipeline not be installed with similar sensors that have been installed on the Transnet National Multi Product Pipeline (NMPP)? For example, on the NMPP, there was an incident whereby these sensors allegedly triggered when a contractor undertaking trenching for laying of fibre was getting too close to the NMPP. As a result, the SANDF arrived on site. This is for the section of the NMPP that is routed via Langlaagte and has housing in the surrounding area, and it has Transnet pipeline markers. Would such sensors not be necessary for the gas pipeline?	NE: Pipeline markers will be installed every 1 km aboveground to indicate the presence of the pipeline so that future developers and adjacent land users are aware of its location. We could probably install local seismic sensors to indicate seismic activities. Sensors were not installed for the Rompco pipeline; however pipeline markers were installed aboveground. There will be a need for such sensors when the pipeline crosses other utilities such as water and sewer pipelines, however the first option would be to go under such utilities. Sensors have not been planned for but could be considered if required. For the Rompco Loop Lines 1 and 2, fibre optic cables were installed in the same trench of the pipeline to meet all the project communication requirements, and to serve as a social responsibly campaign by providing internet services to nearby communities. AW: Could sensors potentially be installed in regions where the transmission line would be routed close to settlements? Post-Meeting Note from KM1: In the case of vandalism and/or excavations it is quite difficult to manage especially when the pipeline is situated near settlements as pipe markers alone cannot fully mitigate the predicament but the following measures may limit and/or reduce the potential for those activities taking place: ▪ Installing a detection system (motion and vibration sensors along block valve stations and Scraper Trap Stations (STS)); ▪ An intervention system (feedback device or staff intervention); and ▪ Legal system (in the case of vandalism to prosecute people involved). KM2: I think sensors would be important in areas where you have a likelihood of

Queries or Comments Raised	Responses
	excavations. Perhaps the project team should follow up with Transnet in this regard. DF and NE: Transnet is a partner on the project and we could engage with them in this regard.
NE: It should also be noted that the Peak Ground Acceleration indicated on the map becomes orange towards Mozambique. For the Rompco pipeline, there was a Magnitude 2 seismic event on the other side of the border in Mozambique and it did not have an impact on the pipeline.	AW: Noted

7. Way Forward and Closure

Queries or Comments Raised	Responses
DF: In terms of the Decision Support Tools, we are also working on a Generic EMPr for the power lines and substations that was compiled as part of the original EGI SEA (2016). This EMPr was gazetted for comment earlier this year, and is currently being finalised for gazetting for implementation. We will also develop a generic EMPr for the Gas Pipeline. One of the aims for the Generic EMPr is that developers would not need to compile a specific EMPr for the construction of such linear infrastructure within the corridors provided that no site specific requirements exist. In terms of the protocols, these have been integrated into the Screening Tool. It will guide developers in terms of the level of assessment that needs to be undertaken. It assists with providing the relevant information to the Competent Authority to assist with the decision-making. It also provides for a Compliance Statement, whereby verification is required on site. In addition, as part of the SEA, one of the proposed outcomes is to compile standards which will allow any development of gas pipeline infrastructure and EGI in the corridors to potentially be exempt from an Environmental Authorisation process provided that compliance with the standards and EMPr is achieved. However, we do understand that this is a controversial aspect. This approach has not been confirmed yet, it is still under consideration. This will mean that no decision or Environmental Authorisation will be issued at the end of the process; however some form of assessment will be undertaken, such as site verification. The standards will be gazetted for comment, so stakeholders can raise their concerns. We would also like to seek your initial feedback now, so that we can consider it in the compilation of the standards. AW: With regards to timeframes, we aim to finalise the corridors by March 2019. However the Decision Support Outputs, such as the EMPr, Protocols and Norms or Standards will need a few additional months to finalise.	GR: With regards to the Decision Support Output, would it include sharing of specialist data, in the form of KMZ or shapefiles, to assist other Environmental Assessment Practitioners that are undertaking work in the corridors? What level of access would one have? AW: Are you referring to the sensitivity layers? GR: Yes, as well as the refined base data that lead to the conclusion of the final corridors. DF: The national wall to wall mapping will be available via the National Screening Tool. The data that will be refined by the specialists within the corridors might also be available, however we are still discussing this internally because there is a problem with the process of updating the data, and there are uncertainties around how this will be done. We are not sure if the refined data will be used on the Screening Tool because it means that there will be a need for it to be updated especially if the base layer changes. This is still being discussed and has not been concluded yet. This is not intended to be a work driver, and it could become a work driver. Overall, the principle is that nothing will be off limits, and everything on the Screening Tool will be downloadable, except for sensitive biodiversity species data and heritage features. The heritage layer will still be able to be viewed on the Screening Tool. AW: There was also a concern about uploading the location of bat colonies. FD: Bats are covered by the species data.
KM2: What type of standards are you referring to? Are you referring to SABS standards?	DF: No, we are referring to environmental standards. For example, if the pipeline was to be

Queries or Comments Raised	Responses
	constructed in a low sensitivity environment in the corridors, then a site verification would only be required. However, if for example, the pipeline would be routed through 1 km of Albany Thicket, an engineering solution would need to be developed to avoid the impact. In the standards, there will be a number of questions to determine if the area can be avoided. The standards are still under discussion, and implementation thereof, together with site screening, would be up to the developer of the pipeline. Public consultation can be integrated as a requirement in the standards. Currently in the EIA Process, the Competent Authority would grant or refuse Environmental Authorisation. The standards will not include a decision-making phase by a Competent Authority.
KM2: For example, by 2019, if a person secures investors and wants to build a pipeline and identifies an area, will it be possible to tap into the transmission line and divert the gas to where it is required within the corridor?	NE: It is something we need to think about. From an environmental perspective, we are assessing, as part of this SEA, the impacts of constructing a gas pipeline within the corridors (whether it be a transmission or distribution pipeline). We might need to look at the Gas Act, which provides differentiation of the various gas pipelines. DF: We have assessed it, but we will need to think about it further. AW: If you are diverting from or connecting one transmission line to another, that would be covered by this SEA Process as long as it is within the corridors. If you want to build a transmission pipeline from the main transmission pipeline to a facility that will use the gas, this should be covered by this SEA and the Decision Support Outputs. However, the actual facility using the gas would not be covered by the SEA Process, only the transmission line would be covered. In terms of distribution, as far as the gas pipeline is concerned, we have assessed the impact, however the only concern would be if the distribution pipeline would be routed through densely populated areas (because as part of the SEA, we have excluded highly populated areas from potential routing options for the transmission pipeline). DF: It would also depend on the quality pipe, which might differ according to the pressures.

AW: The notes of the meeting will be finalised and distributed to the attendees along with the presentations given at the meeting. The presentations will also be loaded onto the project website. Stakeholders can follow and access the project website for project updates. The meeting closed at 20H15.

A.7.8.6.5 Northern Cape – Springbok: 17 October 2018

Meeting:	Springbok Public Meeting: Meeting Notes	
Date of Meeting:	17 October 2018	
Venue of Meeting:	Kokerboom Motel: Next to N7, Droëdap Road, Springbok	
Duration:	17H00 – 20H00	
Attendees:	▪ Dee Fischer (DF) ▪ Neville Ephraim (NE) ▪ Koketso Maditsi (KM) ▪ Annick Walsdorff (AW) ▪ Rohaida Abed (RA)	▪ Babalwa Mqokeli (BM) ▪ Fahiema Daniels (FD) ▪ Tsamaelo Malebu (TM) ▪ Fhumulani Nenzhelele (FN) ▪ Stephen Marthinus (SM)
Signed Attendance Register	Included as Appendix A	

1. Purpose of Meeting and Agenda

The second Public Outreach Process extending from 8 October 2018 to 22 October 2008 was scheduled at various regions across the country to present progress on the Phased Gas Pipeline and Electricity Grid Infrastructure (EGI) expansion Strategic Environmental Assessment (SEA) Process, the draft findings of the Specialist Assessment studies, as well as the corridor refinement process. The meeting was chaired by Mrs. Dee Fischer. Presentations were delivered as per the meeting agenda below:

TIME	ACTIVITY/PRESENTATION	PRESENTER
17:00 – 17:05	Welcome and Introductions	DEA
17:05 – 17:15	Background on the Phased Gas Pipeline Network and Expanded EGI Corridors SEA	CSIR
17:15 – 17:30	Pinch Point Analysis	SANBI
17:30 – 18:30	Biodiversity Assessment (Terrestrial and Aquatic Ecology)	CSIR and SANBI
18:30 – 19:00	Discussion	All
19:00 – 19:30	Social, Planning and Disaster Management Assessment, Seismicity Assessment and Visual Impact Assessment	CSIR
19:30 – 20:00	Discussion, Way Forward and Closing	All

2. Presentation 1: Background on the Phased Gas Pipeline Network and Expanded EGI Corridors SEA

AW provided a presentation on the background of the Phased Gas Pipeline Network and Expanded EGI Corridors SEA.

3. Presentation 2: Pinch Point Analysis

TM provided a presentation on the Pinch Point Analysis. The following comments and responses thereto were made.

Queries or Comments Raised	Responses
FN: Did the Phase 1b gas pipeline corridor move during the initial pinch point analysis?	TM: As part of the draft pinch point analysis, the Phase 1b corridor was not shifted however; the Inland corridor was created to serve as an alternative route to Coega to avoid the highly populated coastal route, which also includes other constraints as pointed out by the Western Cape Department of Environmental Affairs and Development Planning.

4. Presentation 3: Biodiversity Assessment (Terrestrial and Aquatic Ecology)

FD provided a presentation on the draft findings of the Biodiversity Assessment (Terrestrial and Aquatic Ecology).

5. Presentation 4: Social, Planning and Disaster Management Assessment, Seismicity Assessment and Visual Impact Assessment

AW provided a presentation on the draft findings of the Social, Planning and Disaster Management Assessment, Seismicity Assessment and Visual Impact Assessment.

6. Way Forward and Closure

Queries or Comments Raised	Responses
FN: Once the SEA is completed, what is the next step and timeframes? How long will it take for the whole corridor to be implemented, will it be once off?	DF: At this stage, the specialist studies have been completed. The specialists have provided input to the sensitivity maps and input to the Environmental Management Programme (EMPr). As part of the SEA, we are planning to compile standards which will allow any development of gas pipeline infrastructure and EGI in the corridors to be exempt from an Environmental Authorisation process. However, we do understand that this is a controversial aspect, and some concerns were raised at other public and authority meetings that were undertaken as part of this roadshow. We must state that this has not been confirmed yet, it is still under consideration. However, if the standards become complicated to a point that it makes the assessment requirements more stringent and difficult for the developer, in comparison to an actual Environmental Impact Assessment (EIA) or Basic Assessment (BA), then we will not go forward with the Standards. If this is the case, we might streamline the Environmental Assessment requirements within the corridors by requiring a BA rather than an EIA based on pre-assessment undertaken, and allow for the submission of a pre-negotiated route. This has currently been achieved for the 2016 EGI corridors, whereby developers now, as at February 2018, require a BA Process instead of an EIA Process for construction of EGI within the gazetted corridors. The decision-making timeframes have been reduced from 107 days to 57 days. Should this option be followed for this SEA, this will be a major time saver and reduction in resources required. Currently, we are still considering if the standards approach will be effective of not.

Queries or Comments Raised	Responses
	Another consideration is that the lending sector currently uses an Environmental Authorisation as a pre-requisite for providing lending. However, if the standards are followed, an Environmental Authorisation would not be required. This is a concern and still needs to be discussed with the lending sector. Overall, the approach selected will apply for the whole corridor. The aim would be that site verification will be required for any of the approaches selected. Another aspect is that the DEA has recently launched the National Screening Tool that will become mandatory for developers and Environmental Assessment Practitioners. The Screening Tool serves as a flag, which can be used by developers to plot or draw their project footprint and to manoeuvre it so that it avoids any High or Very High Sensitivity areas. If the sensitive areas cannot be avoided, then the developer needs to undertake a site verification, and then apply an engineering solution if required. Another important consideration is that a generic EMPr will be compiled as part of the SEA, which includes mitigation measures for construction of gas pipeline infrastructure and EGI. This would mean that developers do not need to compile a new EMPr for gas pipeline and EGI within the corridors. This will decrease time and cost to the developer and time for the Competent Authority. The principle is that all the issues will be the same as previous linear infrastructure development, so new scoping of issues will not be required, and it would not need to be reviewed by the Competent Authority due to its generic nature, unless site specific requirements become evident.
FN: This will assist NERSA because when developers apply for a licence, in general the Environmental Authorisation is not looked at specifically or in detail. However, in this case, the maps that will be generated on the National Screening Tool will assist NERSA to visualise the development footprint and associated sensitivities.	DF: Noted, all the decision making outputs and tools developed as part of this SEA, such as the EMPr, Standards, and Protocols will fit together. The aim is to make development easier without compromising the environment. This is also the type of forward planning that can be considered by municipalities for their Spatial Development Frameworks.
FN: There is currently a real concern about informal settlements and illegal encroachment of settlements on current pipeline routes.	DF: Informal settlements are a bit difficult to consider because we do not know the full extent and location of these. However, current developments and formal settlements are considered in this SEA Process. The outputs of the SEA will assist the planning of future development.

AW: In terms of timeframes, the SEA final corridors are expected to be completed by March to April 2019. The specialist studies will hopefully be made available for public and stakeholder review by mid- to end-November 2018. If the review period extends over the December holidays, then it will be extended into January 2019. In terms of the tools of the SEA (i.e. Standards, EMPr and Standards), these will take a bit longer to finalise and we are aiming to have drafts ready by March or April 2019. The tools need to go through Working Groups and further consultation processes.

AW: The notes of the meeting will be finalised and distributed to the attendees along with the presentations given at the meeting. The presentations will also be loaded onto the project website. Stakeholders can follow and access the project website for project updates.

DF: In closing, we hope to conclude the majority of the outputs of the SEA next year; however the gazetting process takes a considerable amount of time. However in the end, this process will make a significant difference for the developer and Competent Authority in terms of efficiency while still ensuring environmental compliance.

The meeting closed at 19H25.

A.7.8.6.6 Western Cape – Cape Town: 22 October 2018

Meeting:	Cape Town Public Meeting: Meeting Notes	
Date of Meeting:	22 October 2018	
Venue of Meeting:	CSIR: Lower Hope Road, Rosebank, Cape Town	
Duration:	17H00 – 21H15	
Attendees:	▪ Dee Fischer (DF) ▪ Koketso Maditsi (KM) ▪ Annick Walsdorff (AW) ▪ Kelly Stroebel (KS) ▪ Rohaida Abed (RA) – Via Skype ▪ Fahiema Daniels (FD) ▪ Tsamaelo Malebu (TM) ▪ Melanie Veness (MV) ▪ Russel Sabor (RS) ▪ Marilyn Lilley (ML) ▪ Amelia Genis (AG)	▪ Letsatsi Melato (LM) ▪ Fhumulani Nenzhelele (FN) ▪ Charl de Villiers (CdV) ▪ Karel Lewy-Phillips (KLP) ▪ Glen Tyler (GT) ▪ Peter Kantor (PK) ▪ Kate Davies (KD) ▪ Sue Lane (SL) ▪ Dan Schneider (DS) ***Post-Meeting Note from the CSIR: There are a few stakeholders that attended the meeting but did not sign the register. Where such stakeholders raised queries during the meeting, they are reflected as "Attendees" in the meeting notes.***
Signed Attendance Register	Included as Appendix A	

1. Purpose of Meeting and Agenda

The second Public Outreach Process extending from 8 October 2018 to 22 October 2008 was scheduled at various regions across the country to present progress on the Phased Gas Pipeline and Electricity Grid Infrastructure (EGI) expansion Strategic Environmental Assessment (SEA) Process, the draft findings of the Specialist Assessment studies, as well as the corridor refinement process. The meeting was chaired by Mrs. Dee Fischer. Presentations were delivered as per the meeting agenda below:

TIME	ACTIVITY/PRESENTATION	PRESENTER
17:00 – 17:05	Welcome and Introductions	DEA
17:05 – 17:15	Background on the Phased Gas Pipeline Network and Expanded EGI Corridors SEA	CSIR
17:15 – 17:45	Pinch Point Analysis	SANBI
17:45 – 19:00	Biodiversity Assessment (Terrestrial and Aquatic Ecology)	CSIR and SANBI
19:00 – 19:45	Social, Planning and Disaster Management Assessment, Seismicity Assessment and Visual Impact Assessment	CSIR
19:45 – 21:05	Discussion, Way Forward and Closing	All

2. Opening of the Meeting

DF opened the meeting and provided a background on the purpose of the meeting. The following comments and responses thereto were made.

Queries or Comments Raised	Responses
ML: During the last public outreach meeting in Cape Town on 1 November 2017, the questions raised and corresponding responses provided were not captured verbatim in the meeting notes that were compiled and distributed by the Project Team. The responses were also grouped together. I recommend that for this meeting the voice recording is made available as this is a public meeting and it is understood that the recording will be made available.	AW: It must be noted that we are not capturing the minutes of the meetings that take place. We are instead capturing notes that summarise the key issues and comments raised, with summarised responses, whilst still capturing the essence of what is said at the meetings. This has been the approach adopted since the beginning of the SEA Process. DF: We need to discuss this further and see if it is possible to share the recording of the meeting with the meeting attendees. KS: We are definitely recording the meeting. We could upload the recording via Dropbox, Google Drive or similar and share the link with the attendees after the meeting.

3. Presentation 1: Background on the Phased Gas Pipeline Network and Expanded EGI Corridors SEA

AW provided a presentation on the background of the Phased Gas Pipeline Network and Expanded EGI Corridors SEA. The following comments and responses thereto were made.

Queries or Comments Raised	Responses
AG: What is a pigging station and PIGs? What is the pipeline composed of?	KM, DF and AW: PIGS are Pipeline Intelligence Gauges. They are the machinery that is used to clean the pipeline and to undertake maintenance. Pigging will take place once every five years. The actual PIG is run inside the pipeline. LM: Pigging does not only clean the pipeline, it also picks up on pipeline degradation and

Queries or Comments Raised	Responses
	provides data and the location of where the pipeline is degraded. The pipeline is made of stainless steel and is welded. The actual pipe is delivered to site in batches and these are then lined up and welded on site. The actual pipeline may span for many kilometres but at certain set distances along the route, the pipeline will be diverted to link to pigging stations to allow the PIG to access to the pipeline for cleaning and inspection purposes. The PIG will enter one side of the pipeline and then exit at the other side (at the other pigging station). DF: It is important to note that pigging stations are not large above ground structures like compressor stations (which are not part of the scope of work). LM: Pigging stations are not large structures; they are just to allow the diversion of the pipeline for inspection. Post-Meeting Note from the Project Team: The pigging is not necessarily undertaken solely to clean the pipeline, it actually serves as an inspection mechanism as well. Pigging aims to improve the operational capacity of the pipeline by ensuring that defects are noted and unwanted waste is detected and removed from the pipeline (in compliance with the Environmental Management Programme (EMPr). The actual pigging mechanism requires a Pigging Station, which will be above ground approximately every 130 km but possibly as far apart as 250-500 km (based on new technology options). Pigging stations are generally 30 x 80 m in size.
ML: How many kilometres long is the entire Phased Gas Pipeline Network including all proposed phases?	KM: The entire network, inclusive of all phases, extends approximately 5000 km in length. DF: However, it is important to note that even though all the phases are shown on the map and are being assessed in this SEA, it does not mean that the entire pipeline network will materialize or will be built. Post-Meeting Note from the Project Team: It must be noted that, although these phases have been sequentially numbered, they will not necessarily be developed in this order. Rather, they will be developed according to economic viability, i.e. a guaranteed source of supply and a guaranteed offtake comprising a viable business case for each phase of the Phased Gas Pipeline Network. These are only proposed corridors that are being assessed to identify environmental sensitivities and engineering constraints in order to inform potential pipeline routings should there be a need for such infrastructure in the future.
ML: If the gas pipeline is only checked once every five years, this is a concern as it is not often. I have been following gas pipeline developments, and there have been major gas pipeline explosions in communities where things go wrong. Another important point is that the public need to know up front what the entire development is about, and they need to know what their responsibilities and restrictions are. In this regard, it is not just a matter of what you are allowed to plant within the servitude or not. There is more important	AW: A compressor station will not be located every 130 km. Pigging stations will be routed every 130 km (but possibly 250 km to 500 km apart depending on whether newer technology will be used). KM: I concur that the pigging stations would be spaced at 130 km and not the compressor stations.

Queries or Comments Raised	Responses
information that the public needs to be made aware of with regards to the development of gas pipeline infrastructure. In addition, you mentioned that compressor stations are not being considered in this SEA. However, ultimately the development will require and include compressor stations, and these are large industrial type structures. Therefore, the public need to know what compressor stations entail, especially if it is routed along their properties i.e. what is their function, what do they look like, how big they are, will there be any flaring, and what to expect in general etc. At the last meeting iGas mentioned that compressor stations would be placed every 130 km along the route, and the public needs to be aware of the risks considering this spacing. The public need to be aware of the impacts associated with the entire development in a holistic manner. At the last meeting, it was mentioned that the EMPr would be compiled per section. However, the whole project needs to be considered in its entirety.	Post-Meeting Note from the Project Team: It must be noted that the following information was reported at the last public meeting in Cape Town on 1 November 2017, which concur that compressor stations were not reported as being 130 km apart along the pipeline route: ▪ There are the block valves every 30 km and PIG Stations every 130 km along the pipeline route, and these can be points for off-takers to source the gas. ▪ The proposed pipeline will be underground, and the visible structures will be in the form of Pigging Stations where the pipeline comes above ground. A PIG is a Pipeline Intelligence Gauge used for pipeline inspection. The Pigging Stations can be 130 km apart from each other along the proposed pipeline route. Pipeline markers will also be placed every 1 km along the proposed pipeline route. Compressor stations would be required to increase the throughput of the pipeline. In the Rompco Pipeline, for example, the compressor station is located in agricultural lands, so the impact on surrounding settlements is minimal. ▪ There will not be any flaring activity along the proposed pipeline routes. That is restricted to the existing stations at this point. The objective for the developer is to build a safe pipeline that will not incur any product losses via flaring or other means in order to reduce loss of capital. However the mechanisms for flaring will be in place should this be required for emergency situations. These issues will all be dealt with in the proposal to actually construct the pipeline on a project specific basis. At this stage, the SEA Process is only focusing on pre-planning and pre-assessment, should the proposed pipeline occur. Post-Meeting Note from the Project Team: A generic EMPr will be compiled for the construction and operational phases of the development to ensure that all generic impacts are addressed and mitigated. Post-Meeting Note from the Project Team: Reservoir gas is generally at a high pressure or compressed at the production facility to transport the gas to onshore locations. An inlet pressure of between 100 bar and 125 bar is generally sufficient to transport gas up to 500 km. After that, compression becomes necessary to increase throughput. As an example, the first expansion project for the Rompco MSP was a compressor station installed at Komatipoort, approximately 500 km from the Central Processing Facility (CPF). Compression will be required if the network has a single source input transporting gas over long distances. However, if there are multiple inputs 500 km apart, then compression will generally not be required, unless an increase in throughput is required. The installation of compressor stations will be considered during the engineering studies for each phase of the pipeline network. As a design principle, compression along the pipeline route should be avoided in the initial construction and should be left for capacity increase during later stages of the pipeline operation when market demand increases, requiring increased throughput. Therefore, compressor stations have not been considered as part of this SEA Process, and should be considered on a project specific basis.

Queries or Comments Raised	Responses
ML: Have the Greenhouse Gas (GHG) emissions for the pipeline been calculated? Methane is a far worse GHG than CO_2 (8 times more than CO_2). We have to take this into account up front. We need to decide if this gas pipeline project is viable considering these emissions? We, as a country, cannot be seen on an international stage signing agreements to pledge to reduce our emissions but in South Africa, we do the exact opposite because we know Methane is a far worse GHG than CO_2.	AW: In terms of the GHG emissions, when pigging is done once every five years, iGas calculated that there will be about 5 kg of methane released, and this is equivalent to 25 kg of CO_2 equivalent for each pigging station (i.e. 5 times CO_2 eq. and not 8 times). Your concern about the total length of all the phases of the Gas Pipeline Network (i.e. 5000 km) is noted; however ultimately it is so unlikely that all of the phases will be constructed. If you want to have an idea of the total amount of GHG for the entire network, then you can assume one pigging station every 250 km with 5 kg of methane released.
ML: GHG from compressor stations is another concern due to the emissions.	DF: However, we need to re-iterate that this SEA does not consider compressor stations because these stations are not required to actually build the initial network and will only be required later on if there is a need to boost capacity. If compressor stations are required in the future, these will be subjected to separate Environmental Authorisation processes and will be assessed on a project specific level, which is outside the scope of this SEA. This SEA is only looking broadly at the corridors to inform site specific assessments when required. If more than one compressor station is required, then each station will have its own Environmental Impact Assessment (EIA) Process.
ML: Then to my understanding, you do not have to work out the total GHG emissions from compressor stations as these will be subjected to separate EIA Processes. This will have an implication in terms of cumulative impacts.	DF: The EIA Process would look at cumulative effects associated with potential GHG emissions of compressor stations. AW: There is no sufficient information available at this stage in terms of potential users of the gas, quantity of gas transported etc. to enable us to assess the cumulative impact in terms of GHG emissions. DF: Yes, GHG assessments would need to be done at the EIA stage when compressor stations are required to be built. Post-Meeting Note from the Project Team: Please also refer to response to previous issue in terms of the need for compressor stations. ML: Is that when the pipeline will be built? DF: No, the pipeline will possibly be built based on the outcomes of this SEA, however it does not necessarily mean that the developers would be allowed to build compressor stations without undertaking the necessary Environmental Assessment and required specialist studies, one of which may be a GHG assessment. ML: So when will GHG be considered in the SEA? DF: As mentioned previously, GHG emissions cannot be considered as part of this SEA, which focusses on the assessment of the suitability of the corridors for potential gas transmission pipeline development. The information required for such an assessment can

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	only be finalised at the project specific level. However, in the latest Draft Integrated Resources Plan (IRP) released for comment by the Department of Energy (DoE), it is clear that the provision for natural gas has been increased considerably in terms of allocations, and it is understood that GHG have been discussed to a certain extent in the IRP. The comment period on the Draft IRP closes in a few days. Interested and Affected Parties (I&APs) are encouraged to review the Draft IRP and submit comments.
KLP: Related to the point of GHG emissions let us assume the land is cleared (i.e. 5000 km is cleared), which means that the biomass is removed. Therefore, there has to be carbon offsetting. KLP: In addition, if a developer is installing a pipeline, adaptation to climate change also needs to be considered. For example, flooding in the catchment areas would have an impact on the pipeline, therefore it would need to be buffered in places and remediation would be needed so that it does not get damaged. Overall, this is going to have knock-on effects. It should be considered and would basically be a question of where the GHG is coming from. In my opinion the pipeline itself and land use change will result in losing the carbon sinks which will result in significant cumulative impacts due to the vast area covered. In my opinion this should be considered in the SEA. KLP: Will there be consideration for funds to be put into wetland rehabilitation or offsets? If not, there will be no win for biodiversity. KLP: These are valuable carbon sinks to make up for potentially millions of cubic tons (cumulatively) of biomass that will be lost.	DF: The pipeline will be constructed below ground. In some areas you may not be able to rehabilitate completely, such as in some areas in the Northern Cape for example. Therefore in those areas there would not be much of a carbon sink anyway but there will be a long period of time for rehabilitation to happen. However, in other areas, there will be an opportunity for the vegetation to regrow so it will be unlikely to have major net losses of carbon sinks. In addition, carbon sinks have been calculated and mapped for the country. The pipeline would try to avoid running through areas designated as carbon sinks. In addition, it is unlikely that the pipeline would be routed through densely vegetated areas. FD: The Biodiversity Specialists have identified highly sensitivity areas. In addition, specific Critical Biodiversity Area (CBA) features such as major slopes and coastal dunes have been considered. CBAs have been mapped and considered in the SEA as well. In the datasets currently available, there are broader climate change models that exist, however these are too broad to consider at this level. Instead, we are looking at existing climate change models where the biome shifts will occur, however this is on too broad of a scale to specify what will happen in certain areas of the biomes. Overall these recommendations are taken into account but on a broad level, however we are looking at features that will help for climate change and adaption considerations. FD: As far as possible, the pipeline will be routed away from watercourses, wetlands and rivers, and if these areas need to be crossed, then trenching would be limited as far as possible and other construction methods to go under these features will be considered (e.g. pipe jacking or horizontal drilling).
DF: You mentioned that there are many requirements on the landowner and pipeline operator. Please can you elaborate on this?	ML: Overall, there are many considerations that the owner needs to take into account. Can this information be compiled in a document and shared with us upfront? iGas must have documentation that we can look at to give us an idea of what it actually means. What will the responsibilities of the landowner be? For example, there are certain restrictions that the land owner has to abide by, such as growing certain vegetation within the servitude etc. In addition, there are certain structures that the gas pipeline cannot cross or that cannot go over the gas pipeline etc. The developer should put up signs to inform surrounding landowners and land users of the pipeline. DF: Based on the discussions held to date, one can drive over a gas pipeline, as it will be about 1 – 2 m below ground. The main condition is that deep rooted plants cannot be grown within the pipeline servitude. However all of these requirements will be discussed with the affected landowners and negotiated via a servitude agreement. The agreement

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	will specify what is and what is not permitted in the servitude. It does not mean that the pipeline cannot be routed within agricultural areas; it just means that the design of the line might have to change, such as potentially constructing it deeper below ground. In addition, pipeline markers will be installed every 1 km within the servitude as an indicator of the pipeline route. Overall, the biggest restriction is the deep rooted plants. FD: It is important to re-iterate that all the requirements of the landowner will be negotiated in a negotiation agreement with the pipeline developer. The land will not be expropriated. The pipeline developer will enter into a servitude agreement with the affected landowner, and the landowner will be aware of the pipeline and the operational procedures and restrictions. DF: For example, the servitude agreement will specify the restrictions on what vegetation can be grown within the servitude (i.e. prohibit deep rooted plants). The agreement may also provide recommendations on ploughing i.e. making sure that ploughing does not exceed 1 m depths within the servitude and that suitable machinery is used etc. KM: We could upload generic photographs of the infrastructure and construction process on the website or I could email it to ML. This will provide visualisation of the construction effects are on environment and type of infrastructure. In terms of emissions, if we assume that 5000 km of pipelines will be constructed, then there would be pigging stations every 250 km along the route, which would equate to 20 pigging stations along the entire route. Since pigging is done once every five years, and it was calculated that there will be about 5 kg of methane released, which is equivalent to 25 kg of CO_2 equivalent for each pigging station. *If we assume 6 pig runs per pigging station*, this would equate to 150 kg of CO_2 equivalent for each pigging station. If this is multiplied by 20 pigging stations it would equate to 3 tons of CO_2 every five years for the entire network. In comparison, an average car emits about 4 – 5 tons of CO_2 per year. There are 12 million vehicles registered with the Department of Transport including heavy vehicles. The release of CO_2 from motor vehicles in South Africa is 48 – 60 million tons per year. Target customers for the gas will be CNG and LNG vehicles, which potentially reduce their CO_2 emissions by 30% compared to petrol and diesel. When calculations are done, the emissions are put in perspective and actually minimal as pigging is done every five years. DF: In terms of a way forward, we will upload pictures of pigging stations and pipelines to the project website, and work on a document with information upfront (such as typical requirements of the landowner), as well as do a calculation showing the methane emitted during pigging as calculated at the meeting.
KLP: A Life Cycle Assessment is a good consideration and should have been included in the project. It will give a full picture of the project such as equipment and machinery, as	DF: It was never the intention to undertake a Life Cycle Assessment (LCA). It is not needed in an SEA. The question was raised to determine how much of emissions are released

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well as construction and operation. The reflection on pigging emissions is interesting but not the equivalent of a LCA.	during pigging. KLP: It is unfortunate that it is not included. GHG emissions from pigging are only one component. GHG emissions from the pipeline should be considered, which is linked to the question raised by ML in terms of where we stand as a country in terms of international agreements and where this pipeline is going and there is no LCA for it. DF: Surely the emissions from the coal based energy generation are much higher? KLP: You will need to have the information and quantities relating to coal so it can be compared. DF: Usually LCAs are not done in South Africa for EIAs and SEAs. KLP: They are done in some countries like Holland and they have various criteria and requirements. I hear your reasoning, and do not disagree; it would however be good to include it in any part of this process to avoid the situation we are in now in terms of GHG. ML: I think an LCA is important as it will consider all the phases of the pipeline development over the lifetime of the project, including the decommissioning. DF: As mentioned previously, a LCA is not generally undertaken in South Africa as part of SEAs or EIAs, and it is not part of the scope of work. KLP: But can it be requested to be included? DF: We are not saying that pipelines will definitely be constructed. We are only forward planning as part of this SEA. There is no guarantee that the pipelines will be constructed, as it will be based on demand, a viable business case and establishing a guaranteed supply of gas and a customer. Maybe a LCA can be undertaken at the time when compressor stations are required. Perhaps that is something to consider, as we have made a note that cumulative impacts need to be considered at the compressor station stage on a project specific level. We could possibly look at the coal equivalent, but again this is not planned as we are not comparing different technologies as part of this SEA. KLP: If you had the data on the gas, we could compare it to the coal data and assess different energy scenarios for the country. We had the Shale Gas SEA that was recently undertaken and there was no climate change assessment done for it. There is no climate change assessment being done for the Gas Pipeline SEA. When all the gas fields and Operation Phakisa developments come on line together it would be without climate impact assessments, and therefore without management of cumulative emissions or actual data to compare it to the coal power stations now. These assessments should be taken quite

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	seriously, but I do understand your reasoning. DF: As mentioned previously, the current Draft IRP, dated 2018, has covered carbon considerations. One of key aspects of IRP was to meet the requirements of reducing carbon emissions from a national perspective. Carbon emissions were also considered in first IRP and feedback was provided on different energy technologies. The current Draft IRP is available on the DoE website. KLP: I will look at the Draft IRP. If one takes into account that there will, hypothetically, be pipelines and gas fields, including LNG and LPG facilities in the different harbours such as Saldanha, then there will be emissions as a result of the fuel coming in, compression and de-compression of CNGs, fugitive emissions, and the pipeline itself. This is a very important consideration and there is no margin for error. I am not sure if this assessment of the cumulative emissions from gas has been ring-fenced. This weighs heavily on decisions. For example, in the Shale Gas SEA, there was no consideration of fugitive emissions from exploration. There is a similar scenario for this Gas Pipeline SEA, where there are gaps, whereby emissions from the procedure and the LCA of the pipelines are excluded. If this is not done at each stage, then it is going to become very problematic in future. AW: To do a full LCA, one needs to have all the details, such as quantity of gas transported, usage of gas, location of take offs, and location of compressor stations (if any), etc., and this is not known at this stage. KLP: Could you not look at certain scenarios? You could model it. This would be valuable information for the pipeline LCA. DF: It needs to be reiterated that this SEA is not looking at scenarios of GHG emissions from different technologies, including the gas pipeline and does not look at LCAs.
DF: In response to the last question raised by ML in terms of pigging being undertaken at long intervals i.e. every 5 years. There are ways to detect if gas is being lost from the pipeline (for example, a mass balance is done to identify if losses occur). Block valves will be constructed above ground to close sections of the pipeline should a leak be identified. It is considered that undertaking pigging once every five years is sufficient as the developers would be able to detect issues if any. The pigging interval is also done in terms of best practice. However, inspections can also be done if there are specific issues.	FN: It should be noted that there is also yearly compliance monitoring that is done by the National Energy Regulator of South Africa (NERSA) to ensure that there is compliance with the Operator Licence etc. DF: In addition, a generic EMPr will be compiled and will include monitoring for compliance on a regular basis.
RS: It seems like you are anticipating leaks. What is the impact of product being lost i.e. accidents? How much of product will be lost?	DF: Leaks are not being anticipated. The developer does not want to lose product. The developers will undertake a mass balance, and if they identify that the product is being lost, then they will be able to act on that. AW: The gas in the transmission pipeline is at a very high pressure. If there is a small leak, then some gas will be released below ground. If there is a major leak or rupture, there

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	could be a burst of gas that could create a crater or a fire if there is an ignition source above ground. It is important to note that if the pipeline is constructed (based on a viable business case); a Quantitative Risk Assessment (QRA) will need to be undertaken in terms of the Major Hazard Installation Regulations prior to construction. The QRA would identify safety distances around the pipeline, which is generally taken as 1 km in this SEA. Block valves will also be placed every 30 km along the pipeline route. So essentially, if there was a full rupture and the valves are closed on time, the maximum amount of gas that could be lost would be between a 30 km long section of the 600 mm pipeline. LM: The pipeline system will also be monitored on a daily basis. Pipeline operators have a system in place to monitor the pipeline to ensure that if there is a drop in pressure, it will be directly detected and pin pointed. From experience on transmission pipelines such as the Transnet and Sasol, most of the leaks are caused by third party interference. In areas where there is an absence of pipeline markers, this interference is more evident by work done by external contractors. For example, in many areas the gas pipeline usually runs parallel with a water pipeline and issues generally occur when contractors do repairs on the nearby water pipeline. The leaks are normally small, unless there are larger ruptures. AW: Noted, unintended striking and human area have been identified as a concern and have been identified in the Social and Settlement Planning Assessment. DF: We will compile a write up of a few paragraphs on existing pipelines and where there have been problems in terms of leaks etc. The information will be supplemented with the Disaster Management Study.
CdV: How vulnerable is the above ground infrastructure in comparison to the below ground pipeline infrastructure to tampering and theft? CdV: I was involved when Engen considered putting in a gas pipeline from Saldanha to Mossel Bay, and it was required to route the pipeline above ground in certain areas, particularly in mountainous areas. Will the pipeline be buried for the entire distance?	DF: The pipeline will be below ground. The covers for the block valves (which lead to an inspection chamber) will be above ground. RS: There are many ways that block valves could be built. It could be submerged with an access confined space or it could be a valve underground with a 2 m actuator on the surface. I agree that the more the infrastructure is hidden the better, which will also prevent accidental damage. We must bear in mind that this is a 600 mm diameter pipeline, and if design pressures go up 200 or 250 bar, the wall thickness will be extremely thick (composed of steel). DF: This has been considered in the engineering constraints mapping. Sensitive areas and areas where it would be difficult to construct a pipeline will be avoided as best as possible. The pipeline will be constructed below ground. <u>Post-Meeting Note from the Project Team:</u> Routing of the gas pipeline above ground will not be considered due to safety concerns and risk of tampering.

4. Presentation 2: Pinch Point Analysis

TM provided a presentation on the Pinch Point Analysis. The following comments and responses thereto were made.

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CdV: It seems that you are working from mapped features and values assigned by specialists. At what point do you test public acceptance or resistance in terms of the corridor locations? I am attending on behalf of Agri-Western Cape and they have considerable experience with Eskom powerlines and the interactions with affected landowners, which has not been unproblematic. I am aware that this is a strategic project, however when will the social waters be tested? The Pinch Point Analysis might move the corridors away from areas of environmental and engineering constraints; however the corridors might end up in areas that have resistance and have not been mapped.	DF: For the gazetted EGI corridors (which were gazetted in February 2018), the DEA has allowed for a pre-negotiated route to be determined before applying for an Environmental Authorisation (EA). This allows the developers to "test the waters" in terms of public and landowner resistance. For example, if a landowner rejects the developer's proposal to route a powerline on their property, then the developer would need to look for an alternative route and undertake negotiations with the landowners. CdV: Would this negotiation be undertaken with the actual property owners? DF: Yes, at the time when the infrastructure has been designed and a route has been selected, this will be negotiated with the affected landowners. This is allowed for with the EGI SEA (2016), whereas previously, pre-negotiation was not catered for in terms of the EIA Process and if there were any issues with landowners, it would usually require an amendment to the EA. It used to take eight years for Eskom to seek approval and develop grid infrastructure and it is anticipated that the streamlined process would save time by ensuring that landowner negotiations are done upfront before an application is lodged.
Attendee: First point: It seems that high risk areas are identified but infrastructure still gets placed in these areas, because the low risk areas are no longer possible. This approach seems to happen frequently, so what is the point of all this research? It seems like a foolish exercise. The second point is that given that 14% of the South African population lives in informal settlements, why were these not taken into account when looking at risks? The last point is that water resources were listed; however you did not mention underground aquifers. Do these gas pipelines severally damage underground aquifers in event of explosions etc.? There is a massive aquifer below one of the areas that have been potentially identified for fracking.	<u>Response to Point 1:</u> TM: When the corridors were designed, we looked at environmental and engineering constraints, as well as existing developments and future planned developments. The initial environmental sensitivity analysis informed the draft pinch point analysis. However as part of the specialist assessments these sensitivities are being re-looked at by the specialists based on their level of expertise. The specialists will refine the landscape features and sensitivities and this will inform the final pinch point analysis. FD: It is also important to note that those very high sensitivity areas are both engineering and environmental constraints and most of them are related to engineering constraints, such as mining areas and slopes. If the proposed pipeline route avoids the high sensitivity environmental features, then it is likely that it will intersect with high sensitivity engineering constraints, and this would require an engineering solution. DF: It also needs to be re-iterated that this is a large scale exercise and a site verification will be required before construction in all cases, as it might be that what has been mapped does not correlate with what is on the ground. For example, some areas might have been allocated high sensitivities by the specialists, however when site verification is done, it shows that the area has been transformed. The same can apply for low sensitivity areas that were mapped and changed to high sensitivity areas after verification. Overall,

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	this SEA will focus on desktop mapping as best as we can, however further site work will be needed once a pipeline route has been confirmed. AW: A final pinch point analysis will be done based on the specialist studies; this may lead to potential re-alignment of the proposed corridors. <u>Response to Point 2:</u> TM: Informal settlements are fluid and cannot be easily represented spatially as their locations are not well known and most of them are not captured in municipal plans. Informal settlements are therefore difficult to consider, however we did consider formal settlements. DF: A presentation will be provided on the Social and Settlement Planning Assessment that has been undertaken as part of the SEA. Towns and settlements were buffered in the assessment, so the proposed pipeline routings will stay away from these areas as best as possible. This SEA is only focused on gas transmission pipelines at high pressure which will serve large industrial areas and power stations; therefore it is unlikely that the transmission pipeline will be routed close to towns. <u>Response to Point 3:</u> AW: The SEA has taken into consideration Strategic Water Source Areas (SWSAs) – which includes both surface and groundwater in the Environmental Sensitivity Analysis. Due to the minimal pipeline depth (i.e. top of the pipeline will be about 1 m below ground) it is unlikely that the pipeline will impact on deep aquifers. DF: A 1 - 2 m depth below ground will not really impact the aquifer. However, at this stage, the impact of pollution to groundwater has not been looked at in this SEA. <u>Post-Meeting Note from the Project Team</u>: Recommendations for management of potential groundwater impacts will be included in the Generic EMPr.
ML: One public meeting in each province is not sufficient at all. How many municipalities will the corridors go through? People in those municipalities need to have public meetings and need to be aware of the project. All the affected municipalities cannot travel to one area in the province. These representatives need to be involved and included in the process because those are the people that actually know their own areas. How many municipalities are affected and are you going to have more local meetings in each municipality?	DF: The SEA consists of a Project Steering Committee (PSC) and Expert Reference Group (ERG) which consists of various representatives, including those from the affected District Municipalities. We have been to all the major regions and have arranged public meetings in seven towns (i.e. George, Port Elizabeth, East London, Durban, Johannesburg, Springbok and Cape Town) and authority meetings in eight towns (i.e. George, Port Elizabeth, East London, Durban, Johannesburg, Upington, Springbok and Cape Town). At this strategic level, it is not possible to engage with and hold meetings with everyone. For the authorities meetings, the affected District and Local municipalities have been invited and we had good attendance in Cape Town last year and this year. We will also advertise

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ML: Is there any way of including Local Municipalities in the process and given this information provided at the authority and public meetings as the pipeline will ultimately affect local government. CdV: It should be noted that Local Municipalities are not forced to attend these meetings. They need to be invited and they need to be made aware of what the consequences are if they do not participate at this stage of the process.	the final corridors in the newspaper before gazetting, so people will have a chance to comment on this. DF: There is a limit in terms of National Government telling Local Government what to do. They are autonomous sector of government and it is not possible for us to demand or enforce their attendance to such meetings. We can, and we have invited them to meetings, especially via provinces and District Municipalities. Post-Meeting Note from the Project Team: In terms of municipalities, the SEA focuses on representation at a provincial and district level from an ERG and PSC perspective. However, two local Municipalities, namely the City of UMhlathuze and Saldanha Bay Local Municipality have been added to the project database as they play a key role in terms of providing infrastructure for the importation of LNG, as the Ports of Richards Bay and Saldanha are located within them. However, this does not necessarily mean that Local Municipalities are not involved in the SEA Process. Representatives from the Local Municipalities have been captured on the project database, and we have relied on the District Municipalities to engage with and send correspondence regarding the project to Local Municipalities. A list of the affected municipalities is available on the project website.
CdV: I note that the scales that you work on are large and in terms of project governance it is difficult to engage with all. However, is organised agriculture on your ERG and are they attending? Can I find a list of ERG and PSC members on your website, so that I can follow up internally because I should not be attending on their behalf?	DF: Yes, they are on our ERG database and have attended the ERG Meetings. We will put up a list of ERG and PSC members on the project website and if stakeholders find any gaps, they are encouraged to inform the Project Team. We spent months getting the PSC and ERG convened and writing to organisations. AW: Dr. Garry Paterson from the Agricultural Research Council has been involved in the project and attended the last ERG Meeting in July 2018. Agri-SA is not formally registered on the ERG but they are registered on the project general stakeholder database. Post-Meeting Note from the Project Team: In addition, a list of the ERG and PSC organisations currently on the database has been uploaded to the project website. In terms of Agriculture, the following organisations are included on the project database: ▪ ERG and PSC: National Department of Agriculture, Forestry and Fisheries (DAFF) and the Agricultural Research Council (ARC); and ▪ Stakeholder database: Agri SA, Agri Northern Cape, Agri Namakwaland, Agri Western Cape and Agri Eastern Cape.
ML: How far must the pipeline be from a dwelling or settlement?	DF: Urban areas and settlements have been buffered, and it is planned that the pipeline route will be well away from urban areas. AW: Generally there is a 1 km distance that needs to be maintained from dwellings but this distance can only be confirmed once the exact pipeline details (diameter, thickness, pressure etc.) are finalised, and when the QRA is done so that risks are determined. The

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	QRA will inform the design and distance requirements. Usually, gas pipelines are built up to international standards, which specify specific design requirements depending on how far you are from settlements and other areas of concern. These standards will be considered in the SEA.
ML: In terms of rivers, how will they be crossed to lay the pipeline? Will the rivers be partially diverted? If so, this is really destructive.	AW: The construction method that will be used for crossing rivers will depend on a number of factors such as the river width, flowrate (i.e. perennial or not) etc. If trenching is being done, then yes partial river diversion would potentially be needed, unless it is a very small or narrow river. However, diversion can be done in the dry season. There is no single construction methodology that will be suitable for all rivers. If there is an unacceptable risk, then pipe jacking or do Horizontal Directional Drilling (HDD) will be done. ML: This is justification as to why the local people on the ground need to be aware of the project and these details. DF: Noted however, any form of river diversion would need engagement with the local Water Department Authorities, hence they will definitely be aware of it when it happens and at the stage when the pipeline is ready for construction.
CdV: The government is working hard to use strategic planning instruments to reduce the regulatory burden on certain project developments. Will the strategic pipeline corridor assessment, besides being strategic planning exercise that has very clear benefits, will it have any implications in terms of the EIA and Water Use Licence requirements i.e. if a developer wishes to develop gas pipeline infrastructure in the approved corridors, will there be any short cuts i.e. exemption from Water Use Licence Applications, application of norms and standards, or application for integrated decision-making processes in terms of the permits required. Is this a dimension of this SEA?	DF: Yes, this is one of the dimensions of this SEA. As mentioned previously, one of the key outcomes of the EGI SEA (2016) and the gazetted EGI corridors is that it allows the submission and consideration of a pre-negotiated route before the application for EA is lodged. It allows any landowner concerns and issues to be sorted out before the application for EA is submitted. If any landowner negotiation concerns occur, then the developer will try to find an alternative route and this can take place many times until a pre-negotiated route is identified. This is also one of the planned outcomes for this SEA. We are not undertaking any short cuts as part of this SEA. We are only trying to ensure that there is more consultation with the affected landowners upfront so that the risks are identified and reduced upfront and ensure that there is more certainty. Another aspect is that a Generic EMPr has been compiled for the Gazetted EGI corridors for EGI development. The Generic EMPr was recently gazetted for comment and will be gazetted for implementation soon. The reason a Generic EMPr has been compiled is to ensure that developers do not need to compile new EMPrs for every EGI development (which is the same) within the gazetted corridors. The Generic EMPr is based on the lessons learnt on the numerous EMPrs that have been reviewed and approved by the DEA. It has been designed to consider the issues that were scoped out during previous applications approved by the DEA. The Generic EMPr can be adopted by the developer without seeking DEA approval. However, if there are specific site considerations, then a site specific EMPr would need to be compiled and submitted to the DEA for approval. The same approach is being adopted for this Gas Pipeline and expanded EGI SEA. In addition, this SEA Process aims to take the streamlining mechanism one step further by compiling standards which will allow exemption from an EA for gas pipeline or EGI

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	development within the corridors being assessed as part of this SEA. This means that developers do not need to follow an EIA or Basic Assessment Process within the corridors for such development. However, this approach has not been finalised, it is still under discussion and will be discussed further at the end of this meeting. We note that it is important to engage further with stakeholders on this process so that we can identify the concerns upfront. If these concerns can be addressed, then we will move forward with the standards, however if they concerns cannot be addressed, then the standards will not be adopted.
GT: The complexities of this process are apparent. Once you are done with this strategic work on the corridors and the high level planning is undertaken, if people have objections on the routes, are the alternatives at that stage only applicable within the corridor or will there be a possibility to shift the corridor and revert back to strategic planning process of the corridors at that stage?	DF: For the Renewable Energy Development Zones (REDZ) that have been gazetted, the inside and outside approach was followed. We would want developers to try and develop inside the corridors as it makes strategic sense for them to do so. The same applies to this SEA, a significant effort has been gone into identifying and assessing the corridors (especially in terms of identifying the most least sensitive environmental route) and therefore we would prefer developers to go through them. In addition, development within the corridors is incentivised by a streamlined EA Process in the gazetted EGI corridors and possible EA exemption as part of the current SEA outcomes. Development outside the corridor is allowed and would need to take place in compliance with the relevant EIA Regulations. It must be noted that all the outputs of the SEA achieved through the pre-assessment and gazetting process would not apply outside the corridor. Therefore, developers would be encouraged to develop within the corridors to add to the purpose of the corridors.
GT: Is there re-zoning for the corridor? CdV: There are provisions in NEMA and the National Water Act (NWA) for co-ordinated integrated permits and authorisations. For these strategic corridors of national significance, surely activating the existing provisions would be something to do. An archaic, reactive, "silo" based mentality and decision making does not accelerate sustainable development. Why is this integration not happening?	DF: Re-zoning applications will still need to be done where necessary. The DEA cannot enforce exemptions or streamlining on legislation that is outside of their mandate, such as Water Use Licences for example. The DEA will continue to engage with other departments to see where other permits can be streamlined, however the DEA cannot enforce these departments to take action. The law currently does not allow integrative permitting between different sectors, such as between the Department of Water and Sanitation and DEA. Within the DEA, however, we can undertake an integrated application system such as between the EIA, Waste and Biodiversity Directorates.
ML: When the pipelines go ahead, some farms could be affected, and these farms have been designated for agriculture. How will the landowner cope with this change? The landowner needs to be aware of the potential re-zoning in advance. Will the landowner get compensation for use of their property for the gas pipeline routing?	DF: From re-zoning point of view, the affected landowners will definitely be made aware of it as the developer will carry out detailed negotiations with the affected landowners for servitude registration. There is no way that re-zoning will happen without the consent of the affected landowners. The affected landowners will be compensated by the developer for servitude construction over their properties. The details of this will be discussed between the affected parties. FN: It should also be noted that before a licence is granted to the pipeline operator by NERSA, the application would need to be advertised by the operator and a copy of the application would need to be made available to affected parties for review for a set period of time. All comments raised by the affected parties would need to be addressed by the pipeline operator before the licence is issued by NERSA. The application includes conditions that people need to be aware of.

Queries or Comments Raised	Responses
KLP: What is driving the development in the Northern and Eastern regions of South Africa? Is it a Gas Terminal in Richards Bay that is powering electricity to industrial areas or is it renewable energy. Also what is the driver in the Northern Cape?	DF: The Northern Cape is definitely driven by Renewable Energy. There is a REDZ in the Northern Cape. The pipeline has been considered in terms of the demand of large energy intensive users as a pull factor. TM: We are not only looking sensitivity. We also mapped demand to show where the gas would potentially be needed. We covered both generation and demand and considered the planned infrastructure included in Provincial and Municipal Spatial Development Frameworks (SDFs) (where available). The final pinch point analysis will be based on the findings of specialists, stakeholder comments and the outputs of the demand mapping. AW: The SEA has also considered a number of push and pull factors. For example, a road is considered as a pull factor as it would be favourable to place the gas pipeline adjacent to the servitude of a road as it is linear infrastructure, whilst still abiding by the requirements of the Road Authorities. In terms of push factors for the gas pipeline, this would be existing power lines and railway lines. The gas pipeline and power lines (including railway lines) need to be about 5 km – 10 km apart from each other due to corrosion issues created in the pipeline as a result of an induced current. There are a number of other factors that will be taken into consideration in the final corridor alignment. It is a complex exercise to put all of the information together to create the final corridor alignment.

5. Presentation 3: Biodiversity Assessment (Terrestrial and Aquatic Ecology)

FD provided a presentation on the draft findings of the Biodiversity Assessment (Terrestrial and Aquatic Ecology). The following comments and responses thereto were made.

Queries or Comments Raised	Responses
ML: How wide will the servitude be? Will they actually clear a 50 m wide area along the entire pipeline length? If so, this is a visually huge area resulting in swathes of land being cleared. ML: Would the 10 m wide servitude be kept clear of vegetation? Will the landowners be allowed to plant within it? KLP: Cumulatively that is a lot of land that is cleared and it would be an ecological disaster if you consider the amount of square meters that will be cleared. There needs to be biodiversity offsetting, whether it is creating nurseries etc.	DF: During construction, a right of way of about 30 – 50 m will be created and during operations, this will be reduced to a 10 m registered servitude. A maximum width of 50 m (but closer to 30 m) might be cleared for construction. In addition, grasses and short rooted vegetation would be allowed to develop within the servitude. It is not the intention to keep the servitude completely clear of vegetation. Only deep rooted vegetation within the servitude will be removed in accordance the EMPr. We have discussed with the DAFF how to return the soil profile back to its original land capability. They have provided us with recommendations in this regard, which will be captured in the report . <u>Post-Meeting Note from the Project Team</u>: Lesser than 50 m of land could be cleared (between 30 – 50 m wide), and it will be rehabilitated.

Queries or Comments Raised	Responses
CdV: The north-western parts of the country are extraordinarily vulnerable to disturbance, have very low resilience and have a very low rate of recovery. It is surprising that corridors are being considered through Namakwaland for gas pipelines and powerlines. The impacts involved with these two types of infrastructure are entirely different, and there is very little flexibility with the gas pipeline in comparison to the power line. Even Eskom has trouble with this and placing their pylons in the drier areas. It also depends on how natural the receiving environment is and to what level you want to restore to. It might be easier if it is grazed dry grassland of the North-Western Cape in comparison to areas in the Succulent Karoo. You will not be able to restore to the pre-disturbed condition in these areas. That is why offsets are so important. KLP: Instead of taking species out and taking them to areas that are degraded that can be rehabilitated at this scale, you should consider offsets, otherwise it will not really be tenable. CdV: At this strategic level, can you not identify it as a situation where offsets might come lightly because you are faced with such constraints in terms of the infrastructure alignment that the corridors have to go through these areas.	DF: The areas within the corridors that have been identified are areas that could potentially be rehabilitated. Granted that in some areas it might be more difficult than others. We were in the Northern Cape for the Authority and Public Meetings recently, and the authorities made us aware of a water pipeline project that was undertaken, where rehabilitation was successful. We will engage with the water pipeline project team in this regard and obtain the relevant the studies undertaken. FD: Surely the biodiversity offsets would be the very sensitive areas? CdV: You should use this exercise to pre-emptively identity areas where offsets would be more likely due to the nature of the receiving environment.
KLP: Can the transmission powerlines and cables be placed underground, specifically in areas where birds would be impacted on, such as where raptors are gliding along? For example, in Scotland they were arguing about an above ground powerline through the country and the corresponding visual and tourism impact. Two options were considered and the latter was about 30 % more, and eventually they went for the bigger option via the mainland up North in order to bring in renewables from Highlands down to the central area but obviously in areas where bird collisions rates occur, that would be unacceptable.	FD: Transmission lines cannot be placed underground. DF: In terms of birds, we are working with EWT, who has many years of data on power line collisions, as well as a Risk Model. It is planned that the Risk Model will be run in the corridors; however this is still under discussion with EWT. The aim is to supplement this SEA with this information. <u>Post-Meeting Note from the Project Team:</u> Generally higher voltage power lines are placed above ground. Smaller cables could be placed underground. DF: They have largely mitigated electrocution risk due to the correct distance between the lines so electrocution should not be a risk on the new lines. However, bustards have a specific problem as they cannot see the flappers, so there is no suitable mitigation in this regard. EWT is looking at more research on bustards. There has been a high level of success of flappers with other birds and there has also been some work done on using LEDs for birds that are taking off and landing in evenings in order to reduce collision risks. Overall, in terms of electrocution risk, the only concern is bustards, and they occur all over the country, so it is not like you can just avoid certain areas.
KLP: What mitigation measures will be adopted to manage sediments in riparian areas? Will specific best practice measures be recommended, such as growing vegetation to trap the sediment, installing geofabric textiles, and use of organic sprays to catch the sediment etc.? At what level does the State stipulate what is acceptable or is that left up to the	DF: Mitigation measures for the management of sediments in riparian habitats will form part of the EMPr. However, the outcome needed will be stipulated and the method of achieving the outcome will not be specified in great detail as we still need to leave room for innovation and technology development.

Queries or Comments Raised	Responses
developer to decide?	
ML: Considering the amount of land that will be cleared for the servitude over the pipeline length, what will be done with the biomass removal waste?	AW: The one constraint, as mentioned previously, is deep rooted plants, which will be removed from the pipeline servitude. In addition, the corridors are being designed to stay away from forests and areas of deep rooted plants. Small trees will be allowed to grow within the servitude. Waste management measures will be included in the EMPr.

6. Presentation 4: Social, Planning and Disaster Management Assessment, Seismicity Assessment and Visual Impact Assessment

AW provided a presentation on the draft findings of the Social, Planning and Disaster Management Assessment, Seismicity Assessment and Visual Impact Assessment. The following comments and responses thereto were made.

Queries or Comments Raised	Responses
CdV: In terms of social sensitivities, the fact that an area is dominated by extensive agriculture does not mean that the people who live there would be more amenable to large industrial scale infrastructure. We know that very well for example on the Eskom Gamma – Kappa power line route from Victoria West to Kuils River, where there is huge resistance to new power lines. Farmers feel like they are bearing the brunt of the power line, and feel like they have been alienated. They believe that they have not been heard by Eskom and insist that alternative routes be found. In addition, there is huge pressure on and damage to the public rural road network as a result of these types of power line projects. In general, Eskom does not repair the roads post construction, and the farming community is left to pay for these repairs, which is major cause for concern. In addition, farm damage is also a concern especially during the construction phase. For example, damage can result when equipment and plant material fall. There is also stock theft that needs to be considered. It is also important to explain to the affected landowners and surrounding people what it entails to build a large gas transmission pipeline i.e. it may be constructed more slowly than typical EGI and there will be more workers on site for considerable periods of time. I am not saying this is problematic, however the affected landowners need to be made aware of this. Farmers are also citizens of this country and their concerns need to be heard. The map needs to be refined and completed carefully with more accurate detail (as it is currently a representation of the past). I do not see sensitivities in this map, with areas of red in the rural areas. The difficulty is there are large concentrations of populations and it is easy to assign significance to their presence in terms of values of sensitivity. The difficultly is in thinly populated rural areas. It	Noted with thanks.

Queries or Comments Raised	Responses
does not mean though that the sensitivities are not there and they are not acute. Obviously you cannot measure opinions from everyone in the Platteland and pin point it on a map. I am just saying that it creates an impression that the only problematic areas from a social perspective are urban areas, and they are not.	

7. Way Forward and Closure

Queries or Comments Raised	Responses
AG: Who will build these pipelines? Who will monitor the process to ensure that impacts are mitigated? Will the DEA monitor to see what happens to the biodiversity and plants as a result of the pipeline.	DF: As with all infrastructure development in our country, it will probably be a tendered or IPP process. It will still need to be confirmed. It is not a foregone conclusion that iGas will be the proponent. The country is moving towards a regulated tender process for these types of projects. FN: From NERSA's perspective, anyone that wants to submit an application for the pipeline operation can submit their application and NERSA will consider it based on merit. NERSA does not have a bidding system in place for the consideration of pipeline operator licences. The DoE IPP Gas to Power Programme is subjected to a different process, for example, a decision needs to be made in terms of the whether the plants will be built at Coega or Richards Bay. DF: In terms of monitoring, we need to make sure we are not going into areas where there will be a high impact, because once the high sensitivity feature has been destroyed then there is no point in "monitoring the destruction". A State of the Environment Report is done every 5 years by the DEA which looks at cumulative biodiversity impacts and losses. We are also party to the United Nation assessments on biodiversity targets. We also have to look at biodiversity targets, such as the STEPs. Therefore, in this way, government is monitoring loss or gain. At a project level, there are EMPrs and usually these are monitored by Environmental Management Inspectors (EMIs). The DEA has a large EMI database and they are quite active. DEA EMIs do undertake voluntary monitoring and targets are set every year for such visits. Some SOC projects are monitored on a regular basis.
CdV: Should one not already start thinking now of what form and what purpose stakeholder based project governance would have particularly during the implementation of the project to ensure that people are kept informed. The problem is that people generally feel ambushed and they react to projects in certain ways which translate to delays for projects for various reasons. For project of this nature one needs to make sure that its governance is legitimate and the responsible parties are responsive to the concerns of stakeholders. I think that it is a weakness to the project if does not look at how implementation would be governed in a participatory manner.	Noted with thanks.

Queries or Comments Raised	Responses
ML: There are massive protests and a lot of resistance to pipeline development around the world which is why it is important to make sure that somehow the Municipalities are kept informed and they regularly keep in touch with NGOs and stakeholders. This will be a fair Public Participation Process. Many of the people directly affected by the development are missing out on the process. You need to make sure that the public are given their constitutional right of being informed.	
ML: Is iGas an international or South African company? Who will the pipelines belong to?	DF: iGas is a South African State Owned Entity (SOE). The pipeline will belong to the developer and the gas belongs to whoever is going to use it. LM: Currently we have gas transmission pipelines in four provinces i.e. Gauteng, Mpumalanga, Free State and KwaZulu-Natal. Transnet owns one of these pipelines (i.e. Lilly Pipeline running from Secunda to Richards Bay and Durban). Sasol also owns gas pipelines in Gauteng and surrounding areas, including a portion of the Rompco Pipeline from Mozambique to Secunda. iGas also owns a certain percentage of the Rompco Pipeline together with the Government of Mozambique and Sasol. There are other smaller gas pipelines in Gauteng that are operated by private entities. Post-Meeting Note from the Project Team: The developer will own the pipeline and invest in it neither government nor the taxpayer). If iGas as a government company (SOC) is the developer, iGas will fund the project via equity (iGas' money) and project finance (bank loans). Each phase of the pipeline will only be constructed based on a viable business case (a guaranteed supply of gas and a guaranteed customer for the gas). iGas will then finance the specific phase of the pipeline and recover its investment by charging a tariff for the transportation of the gas. The tariff is regulated by NERSA.
ML: Who does the gas belong to? Basically, a company is constructing a pipeline to transport gas that does not belong to South Africa?	LM: In terms of LNG, it really depends on who is going to get a license to import the gas; they will be the "owner" of the gas. DF and LM: It will be South African companies that will use the gas. Mozambique has its own gas. Gauteng has many companies and industries that need gas. South Africa will be using the gas not selling it. Post-Meeting Note from the Project Team: Initially offshore gas was proposed as a source, and later additional potential sources were included. Overall the sources of gas include indigenous gas (i.e. both offshore gas and onshore shale gas), imported LNG (via Coega, Richards Bay and potentially Saldanha), and regional gas from Mozambique (Rovuma Basin) and Namibia (Kudu Gas). The quickest form is imported LNG. Offshore gas exploration is not included in this SEA.
KLP: Is it a foregone conclusion that pipelines are most likely to go ahead in South Africa because there are the reserves and resource estimates. Operation Phakisa has many licence blocks and 2 out of 10 for exploration to see if there are actually viable reserves. The amount of shale gas that exists is currently unknown and it seems as the gas that is most likely to be exploited is methane in KZN. There are many uncertainties. However,	DF: It must be re-iterated that we are not guaranteeing that the pipelines will be built. This SEA is only forward planning to assist with the best location for gas pipelines should the gas be found. Gas reserves have not yet been proven, which is why we are doing the planning at this stage.

Queries or Comments Raised	Responses
there is one project that has come on line on the West Coast and I can see the need for the pipeline there (going to Atlantis). This SEA assesses an entire gas pipeline network; will there be enough gas to motivate for it? What will happen to the gas coming from Mozambique, will it be viable to transport around the country? How many of the other exploration licences (arguably two-thirds of the offshore waters and the onshore) are actually proven reserves? Where are we with finding out how much gas there is? Currently, I do not see big reserves of gas being exploited. I might not have all the insight, where is this bounty of gas going to come from because they have not proved that it is there yet. ML: So we are locking ourselves into this now even though we are not sure if the gas will be found or imported. As I understand, internationally, they exploit and extract the gas and then export it out of the county and sell it to highest bidder. So in this case, communities and farmlands will be affected by this development, which private companies benefit from for their own gain. ML: In any case, the driller extracts and owns the gas and can sell it to anyone that requires it.	Attendee: Starting from Saldanha, there is Ankerlig down the line, which has nine Open Cycle Gas turbines and they are currently adding another three in January. Move across to Gourikwa at Mossel Bay, which has five turbines. From this point to Coega and Durban, there are also turbines. They are planning for Oranjemund as well. They are not running on gas now, they are running on diesel. DF: We cannot say that because we do not have any confirmation about where the gas will be used. LM: This project is in line with the objectives of the IRP and Operation Phakisa. The main focus for gas is for power generation, and other than that it will be for smaller gas users. In terms of the scenarios for exploration, for instance, the Kudu reserves have less than 1 TCF of gas there and it has not been confirmed yet. There are the Karoo reserves and we are all aware of the situation there. The last option would be to import gas. These corridors are all located along the coast meaning that gas import via the ports can be undertaken and linked to the transmission pipeline. The targeted anchor company would be the export of power generation. The aim is to support the objectives of the IRP; therefore it is likely that the developer would be based on a public and private partnership. AW: It must be reiterated that the gas pipeline will only be developed if there is a viable business case. At this stage a viable business case is one that has a high demand and it is mainly a Gas-to-Power plant, or a large industrial area with a high gas demand. It is not planned to build the pipeline to transport gas outside the country. KLP: It would be an incentive to exploit all the hydrocarbons that are available in the vicinity that is not economically viable to get that gas to the pipeline and this would be shifted as a priority as the pipeline will be there. DF: Again, the pipeline will not be built unless there is a viable business case, and a guaranteed source of gas and off taker. It will not be the case where the pipeline will be built before an actual source of gas is found. This would be planning in the wrong order. DF: Remember that even if drilling goes to a third party, there will be tax incentives, and it will add to the economy. <u>Post-Meeting Note from the Project Team</u>: When the development considered offshore gas potential, it was based on the P50 resource estimate, i.e. what the geology indicates could be there.
ML: There was one slide in the presentation where leaks and fires were discussed; however, explosions must also be added to the list of hazards. Explosions cannot be excluded as they are reality.	Noted with thanks

Queries or Comments Raised	Responses
In addition, during explosions, in some cases, the gas cannot be switched off and this causes the gas to collect 3 – 5 km further away. You mentioned that world class standards are followed, however based on research, sometimes inferior pipelines are bought, which may lead to issues such as corrosion. Another point is seismic testing, which needs to be done for the gas pipeline development.	
ML: In addition, some replies from the CSIR in previous meetings have been that "virtual pipelines are being used in the Free State at the moment". Please can you elaborate on this? It is highly compressed gas in the pipelines and this is transported via big trucks to wherever they offload it. This is a concern because this is highly explosive and there have been accidents. Are the communities where the pipelines run through aware of these explosion risks?	AW: I cannot recall in what context that previous comment was made, however transportation of the gas via trucks will not assessed as part of this project. Explosions of that magnitude are unlikely and risk assessments will be done at the project specific level
Attendee: At what point do the corridors appear on the Integrated Development Plan (IDP) or SDF of the Municipality? Municipalities do not have capacity to consult widely on these matters unless they are already consulting on their IDPs. This would be a logical way to bring the corridors to Municipality.	DF: One of our key concerns is how to get the lines accepted into the planning process. We are engaging with municipalities to get the corridors into their SDFs and it is an ongoing process. We are also trying to get the corridors into the National SDF.
KLP: The gas infrastructure is obviously incentivising gas exploitation. We are aware that the offshore area has not been fully exploited yet. However, when you get onshore, people are banking on shale gas being there, as well as methane gas. When does it start to become exploited? Studies have shown that 20 - 30 % of additional CO_2 emissions are attributed to fugitive emissions of methane. When all projects come on line, there will be scenario where emissions will be worse than coal.	
Attendee: Who will be responsible for offloading the gas? Currently in Saldanha, there is a situation with the one supplier, Sunrise Energy, who has a pipeline running into the sea, the boat comes and offloads, and other boat goes into the harbour and trucks go across the road to the neighbours across. Who will control this? This will be for imported gas.	LM: This process is driven by the government and any other entity that has a licence to take gas from the ports inland. The situation in Saldanha is similar to when two companies have been issued a licence and they operate in the same harbour, which will result in a competition for gas. The aim is to avoid this competition and have one customer that will have a terminal to take the gas inland and then there would be one anchor customer. DF: This would be something that we cannot control and manage.
Attendee: Has the impact of climate change on the pipeline been considered?	FD: We have looked at the broad climate change models. They generally show shifts in biomes and indicate at a broad scale where biomes would change, and what to expect in terms of features. <u>Post-Meeting Note from the Project Team</u>: Climate change is considered in the environmental sensitivity analysis and specialist studies. The study has not used Climate Change Models as part of the assessment. Some of the Specialist studies do factor in climate change in terms of impact and spatial relation to climate change. CBAs factor in climate resilience and adaptability to changes as a result of climate change. Climate change prediction models will for example show a shift in the range of a particular biome, but not at a finer scale than that. Therefore the sensitivity assigned to that specific biome will apply, regardless of where the shifts have occurred. These changes also happen slowly, over time and the prediction models have changed drastically over the last 10

Queries or Comments Raised	Responses
	years, and therefore may change again in the next 10 years.
KLP: The omission in the last IPCC report was on the interpretation of the GHG equivalent impact of methane. It was not included in the previous report, which is when oil and gas got a head start in society. Then there was a promotion for cleaner gas. However, when you do the actual calculations, you see that gas is actually not cleaner than coal. The emissions in this case would be facilitated by the pipeline, and if the pipeline is there, then gas will be exploited. It could be a carbon intensive project. This consideration and assessment was also excluded in the Shale Gas SEA, and now in this SEA.	DF: There will be a section on climate change in the SEA Report. We will not do a Climate Impact Assessment and LCA. The material today could be different in five years' time. KLP: It would be to provide recommendations and at some point it needs to be covered to address the implications for climate change. DF: The place it needs to be included in is the IRP. KLP: Arguably, this is driven by the Oil and Gas Industry. The SEA Process and IRP both have a place for such recommendations.
ML: Gas is not the way to go forward.	DF: The IRP is where you need to make your input. The IRP comment closes on 25 October 2018, and comment was open for 30 days.
DF: In terms of the way forward, the specialist studies will be made available for public comment towards the end of this year. The specialist studies will be sent to the meeting attendees, and all registered stakeholders, as well as uploaded on the project website. The tools of the SEA, such as the EMPr, Standards and Protocols, will also be made available for public comment before gazetting. These tools are the practical aspect of the SEA and will be finalised in 2019.	KLP: You have done your best as a team.
AW: In terms of your earlier request for details on the gas pipeline and information being made available upfront, several documents were uploaded to the project website in February 2018. This includes a document on the Operational Safety Aspects of the Pipeline, which includes feedback on the pigging and compressor stations. An email was sent to all registered stakeholders in February 2018 to inform them of the uploads made. The information has been there for a while.	ML: Noted, there is a lot of information on the website and I will consult it. Do you need to sign in to access any of the information? AW: No, all the information is freely available. Please inform us if you have a problem accessing the files.

Post-Meeting Note from the Project Team: The notes of the meeting will be finalised and distributed to the attendees along with the presentations given at the meeting. The presentations will also be loaded onto the project website. Stakeholders can follow and access the project website for project updates.

The meeting closed at 21H10.

A.7.8.7 Notes of Public Outreach Roadshow – Round 3 for Stage 2 Consultation

A.7.8.7.1 KwaZulu-Natal – Durban: 13 June 2019

Meeting:	Durban Public Information Sharing Session: Meeting Notes		
Date of Meeting:	13 June 2019		
Venue of Meeting:	CSIR: 359 King George V (5th) Avenue, Durban		
Duration:	17H00 – 21H15		
Attendees:	▪ Ishaam Abader (IA) ▪ Dee Fischer (DF) ▪ Stella Mamogale (SM1) ▪ Sipho Mokwana (SM2) ▪ Koketso Maditsi (KM) ▪ Amit Nandkuar (AN) ▪ Bongi Shinga (BS) ▪ Amanda Shabalala (AS) ▪ Annick Walsdorff (AW) ▪ Rohaida Abed (RA) ▪ Babalwa Mqokeli (BM) ▪ Abulele Adams (AA) ▪ Fahiema Daniels (FD)	▪ Tsamaelo Malebu (TM) ▪ R. P. Naidu (RPN) ▪ K. Subben (KS) ▪ Udiv Budhal (UB) ▪ Londeka Ngcobo (LN) ▪ Wisdom Mpofu (WM) ▪ Sagie Chetty (SC) ▪ Kiran Parthab (KP) ▪ Samora Madikizela (SM3) ▪ Mohamed Khan (MK) ▪ Emmanuel January (EJ) ▪ Desmond D'sa (DD) ▪ Sherelee Odayar (SO)	▪ Samkelo Ntombela (SN1) ▪ Naledi Nene (NN) ▪ Slindile Msani (SM4) ▪ Andile Mbhele (AM1) ▪ Asanda Mbatha (AM2) ▪ Msoh Ntombela (MN1) ▪ Smangele Ngcobo (SN2) ▪ Mvuzo Ntombela (MN2) ▪ Gumede Collen (GC) ▪ Senzesihie Sithole (SS) ▪ Slungile Makhanya (SM5) ▪ Nombulelo Myeza (NM) ▪ Mandisa Ngcobo (MN3)
Apologies	▪ Neville Ephraim ▪ Shiven Panday ▪ Thabang Modise ▪ Vincent Chauke ▪ Koogendran Govender ▪ Andretta Tsebe	▪ Mapaseka Lukhele ▪ Khathutshelo Tshipala ▪ Sarah Allan ▪ Paddy Norman ▪ Bobby Peak ▪ Adrienne Edgson	▪ Sue George ▪ Nora Choveaux ▪ Peter Hlabisa ▪ Vijay Pramjee ▪ Mr MP Bukhosini
Signed Attendance Register	Included as Appendix A		

1. Purpose of Meeting and Agenda

Based on the discussions held and recommendations made by stakeholders at the meeting on 11 October 2018, the Department of Environmental Affairs (DEA) arranged an additional Public Information Sharing Session at the CSIR Offices in Durban on 13 June 2019 in order to allow stakeholders the opportunity to discuss the Phased Gas Pipeline and Electricity Grid Infrastructure (EGI) Expansion Strategic Environmental Assessment (SEA), raise queries and receive responses, and to be updated on the progress made and the findings of the specialist assessments. The meeting was chaired by Mr. Ishaam Abader (IA) of the DEA and co-chaired by Ms. Bongi Shinga (BS) of Wakhiwe Stakeholder Engagement Specialists. Presentations were delivered as per the meeting agenda below. BS provided a summary of each presentation in Zulu, as required, upon completion of the English presentation.

TIME	ACTIVITY/PRESENTATION	PRESENTER
17:00 – 17:10	Welcome and Introductions	DEA
17:10 – 17:20	Background on the Phased Gas Pipeline Network Corridors	CSIR
17:20 – 17:30	Discussion	All
17:30 – 18:00	Pinch Point Analysis	SANBI
18:00 – 18:20	Discussion	All
18:20 – 19:00	Biodiversity Assessment (Terrestrial and Aquatic Ecology)	SANBI
19:00 – 19:20	Discussion	All
19:20 – 19:30	Break	All
19:30 – 20:15	Social, Planning and Disaster Management Assessment and Visual Impact Assessment	CSIR
20:15 – 20:30	Discussion	All
20:30 – 21:15	Way Forward and Closing	All

2. Opening of the Meeting

IA and BS opened the meeting. BS provided a list of ground rules for the meeting. The following discussions were held.

Queries or Comments Raised	Responses
DD: Requested detailed information on the methods used to advertise and invite the public to the Public Information Sharing Session.	RA: Advertisements were placed in the following newspapers: ▪ Tongaat and Verulam Tabloid (English); ▪ Southern Star (English); ▪ Highway Mail (English); ▪ Springfield Weekly Gazette (English); ▪ Eyethu Umlazi (Zulu); and ▪ Isolezwe (Zulu). In addition, all registered stakeholders who attended the October 2018 meeting were notified of the re-scheduled meeting via email on 24 May 2019. Personalised invite letters were also distributed via email to all affected District Municipalities in KwaZulu-Natal on 24 May 2019, and copied to Local Municipalities, where details were present on the database. District Municipalities were requested to forward the notification to the affected Local Municipalities. Post-Meeting Note: A personalised invite letter was also sent to Mr. Desmond D'Sa of the South Durban Community Environmental Alliance (SDCEA) by the Department of Environmental Affairs (DEA) on 23 May 2019 via email. The SDCEA confirmed receipt of the letter on 23 May 2019. The SDCEA was also

Queries or Comments Raised	Responses
	kindly requested to forward the invitation to the session to relevant parties and any other stakeholders on their database.
DD: Does the range of advertisements that were placed sufficiently cover all the affected areas? I believe that the CSIR has omitted some areas that are affected. How will this omission be rectified?	DF: It is important to remember that the SEA does not mean that a gas pipeline or EGI will definitely be developed. The SEA is focussing on a strategic assessment of the 100 km wide corridors that could be used for the development of infrastructure when a development has been identified. The corridor has many options within which a specific development could occur. The entire 100 km wide corridor will not be developed. IA: It is requested that you assist the SEA Team by identifying the areas believed to have been omitted.
DD: I do not agree with the use of the CSIR as a venue for the Public Information Sharing Session due to its inaccessibility to communities of uMlazi, Tongaat, Durban South, etc. Public transport is also an issue for most communities as the public transport does not cover the area in the evenings. It is advised that the Public Information Sharing Session should not be used as a tick box exercise but a platform for meaningful engagement for the public. The number of participants present at the meeting are less compared to the 8 million citizens who will be potentially affected by the proposed corridors. It also seems that there is an absence of officials from eThekwini Metropolitan Municipality.	IA: This is a Strategic Environmental Assessment which is identifying suitable areas within the corridors where development could potentially happen. In the presentation, the CSIR has referred to a 125 km wide corridor, and it has not been decided where the actual pipeline will be located, when it will be developed and if the development will go ahead. In addition, there may be factors mitigating against the development. This is a strategic high-level assessment. One needs to understand that in terms of process, this is the strategic level and once a development has been confirmed and proposed, then the process will proceed to the specific project level assessment. This will be done per region affected. If there is a requirement for a site-specific assessment for a section of that corridor, we are obliged in terms of the law to consult with the people affected. If we do not, then you have excellent grounds to challenge that decision. DD is encouraged to not only attend the meetings to criticise the process but to be constructive in engagements. As an example, when you refer to people that have not been identified and consulted with during the SEA, then you also have a duty as a South African citizen to indicate to the team who has been omitted and also suggest how best to get the message to those that did not receive the information. DD is also encouraged to provide a list of newspapers, radio stations or public libraries where the CSIR team can place information for public review. The purpose of the SEA is to identify corridors for gas pipeline and EGI development. The purpose for the gas is to provide power to the people. It is therefore to ensure the economic growth of South Africa and for the benefit of our communities.
SO: Is there only one Public Information Sharing Session scheduled in KwaZulu-Natal? As previously informed, one meeting in Durban does not represent the totality of KwaZulu-Natal.	DF and AW: This is the only scheduled Public Information Sharing Session in KZN. It is important to note that if there is going to be any gas pipeline or EGI development within the corridors, there would be a standard Environmental Authorisation process and it would be specific to each area affected. The SEA is therefore a policy process and it is not a requirement to visit all communities that are within the 125 km corridors (which will be reduced to 100 km wide for gazetting).

3. Presentation 1: Background on the Phased Gas Pipeline Network and Expanded EGI Corridors SEA

RA provided a presentation on the background of the Phased Gas Pipeline Network and Expanded EGI Corridors SEA. The following comments and responses thereto were made.

Queries or Comments Raised	Responses
SO: Will the presentation delivered at the meeting be made available to the public?	RA: Yes, the presentations delivered at the Public and Authority Roadshows undertaken in November 2017 and October 2018 have been placed on the project website for stakeholders to access (https://gasnetwork.csir.co.za/). The presentation delivered at this Public Information Sharing Session is very similar to that delivered at the previous roadshows. Post-Meeting Note: Towards the end of the meeting, the presentation was also circulated via email to all participants who were in attendance at the meeting (based on the signed attendance register and legibility). The presentation has been translated to Zulu and will be emailed to all attendees once it has been finalised.
DD: The presentation mentions that pipeline routes are not being assessed. What is the difference between a route and a corridor? It is understood that the CSIR is trying to make the Environmental Impact Assessment (EIA) process easier. The presentation also refers to the baseline study which means that you are not going to go through the full EIA. By implication, the developer will not assess the risk because you would have done the assessment as part of the SEA.	RA: A 125 km wide corridor is currently being assessed, and this will be reduced to 100 km wide following the corridor refinement process. During the operational phase, only a 10 m wide servitude will be required for the Gas Pipeline. The 10 m wide servitude is basically the route of the pipeline, and is the extent of the area where the pipeline will be physically located and it will fall within the 100 km wide corridor. The specific pipeline routes cannot be identified as part of the SEA Process and it will only be identified on a project specific basis as it will be based on finding a source of gas, as well as if there is a business case or demand for the gas. AW: The objective of the SEA is to find the best 100 km wide corridors with as many low sensitivity areas as possible so that if there a business case to develop a pipeline route, then within that 100 km wide corridor the best possible 10 m route for the gas pipeline can be identified, and that would then be subject to an Environmental Authorisation process. IA: It is important to remember the important factors, i.e. that there must be a demand for gas (if there is no demand, then it is not a viable business option to develop a gas pipeline); and that there must be a source for gas. The corridor is therefore a broad area, and the process is about enabling developers to find the best route based on the pre-assessment carried out in the SEA. Once the best route has been located and there is a source and demand for the gas, there will be a full public participation process that needs to be undertaken for the affected area. DF: The corridors being assessed are 125 km wide. When the corridors are finalised (at the end of SEA), it will be 100 km wide and the pipeline route will be 10 m wide. KM: The corridors will be 100 km wide once finalised. The gas pipelines will not cover the entire 100 km wide corridor. The difference should be noted. The pipeline will only occupy a 10 m wide servitude within the corridors.

4. Presentation 2: Pinch Point Analysis

TM provided a presentation on the Pinch Point Analysis. The following comments and responses thereto were made.

Queries or Comments Raised	Responses
DD: Will the presentations be delivered in Zulu? This request was put forward during the meeting held in October 2018. Most areas that might be affected are rural, and stakeholders mainly speak Zulu in KwaZulu-Natal. Will the affected communities receive Zulu versions of the presentation or background information? The comment period should be extended to accommodate Zulu speaking stakeholders.	BS: The presentation will be provided in Zulu at the meeting. IA: Translations of project documentation to Zulu is under discussion. A document that can be understood in terms of the implications of the SEA Process can be translated to Zulu. In terms of the comment period extension, this can be extended by a reasonable period i.e. 30 calendar days. SDCEA should identify the additional community members that need to be consulted with after the meeting. BS: A date of release of the translated documentation cannot be specified at the meeting, as the SEA Project Team needs to factor in time needed for translation. DD will be notified once the documents have been translated and are available for circulation. Post-Meeting Note: Refer to Section 7 of these Meeting Notes for the way forward on the additional comment period and translations.
MN2: Is it correct that the SEA Reports will be written in English and the Zulu version will be summarised?	BS: The SEA Reports and Specialist Reports will not be translated to Zulu. A summary of what is contained in the reports is captured in the presentation that is being delivered at the Public Information Sharing Session. In order to facilitate better understanding of the presentation, translations in Zulu have been provided at the meeting. Post-Meeting Note: Refer to Section 7 of these Meeting Notes for the way forward on the translations.

5. Presentation 3: Biodiversity Assessment (Terrestrial and Aquatic Ecology)

FD provided a presentation on the draft findings of the Biodiversity Assessment (Terrestrial and Aquatic Ecology). The following comments and responses thereto were made.

Queries or Comments Raised	Responses
MN2: What is a Fynbos Biome?	BS: It is a biome of specific vegetation types within the Western Cape. Post-Meeting Note: A Fynbos Assessment has been undertaken as part of the SEA Process. The Fynbos Assessment notes that "*The Fynbos Biome is globally recognised for its high diversity of plant species with about 7 500 species, 69% of which are endemic and 1 889 are listed as threatened. The biome is centred in the south-western part of the Western Cape with areas extending north-westwards for about 650 km, almost to the Orange River, and eastwards for 720 km to the Kap River mountains east of Grahamstown*".
MN2: Please clarify that only the green areas are acceptable for the pipeline to go through and the red areas are environmentally sensitive, and therefore	DF: The green areas indicated on the maps are less sensitive. However, in the eventuality that the red areas cannot be avoided, the developer will need to consider alternative engineering solutions in order

Queries or Comments Raised	Responses
not conducive for the pipeline corridor? Therefore, the target areas would mostly be the green areas as opposed to the red.	to minimise the impact. Avoidance of sensitive areas may not always be an option. However, mitigation is always required where it is not possible to avoid a sensitive area.
DD: Pipeline developments are generally moved from areas such as Westville to KwaMakhutha i.e. areas where the impact is going to be felt the most.	FD: The green areas shown on these biodiversity slides are areas with low sensitivity from a biodiversity point of view only.
SM5: Please explain the slide labelled "Aquatic Ecology – Estuaries".	FD and BS: During the high rainfall seasons there is more fluvial flow entering the estuary, whilst during the low rainfall seasons, the fluvial flow into the estuary is reduced. The slide is therefore emphasising the importance for specialists to take into consideration both conditions when undertaking an assessment in order to fully consider the impacts that could arise from a pipeline development.

6. Presentation 4: Social, Planning and Disaster Management Assessment and Visual Impact Assessment

AW provided a presentation on the draft findings of the Social, Planning and Disaster Management Assessment and Visual Impact Assessment. The following comments and responses thereto were made.

Queries or Comments Raised	Responses
SO: In the Pinch Point Analysis, it was mentioned that the corridor will be moved from the sensitive areas but not too far from the source. What does this mean? If the source is a determining factor, it means the potential to affect the sensitive area remains.	IA: If there is a sensitive area, and there is a need to move the pipeline, the pipeline cannot be moved too far away from the actual source of electricity or gas. The pipeline route could be moved out of the sensitive areas but the best mitigated route for the pipeline needs to be determined. It also depends on where the area is and how sensitive it is because there are ways of mitigating. For example, if you have a water body you can use an engineering design to bypass that sensitive area. It therefore depends on the nature of the sensitivity.
MN2: There are communities in KwaMakhutha that live near a pipeline. In some instances, the pipeline markers are next to houses. When one looks at the map, it appears that the targeted areas in the south of Durban will be the KwaMakhutha communities. In a situation where the pipeline is not maintained, the pipeline will possibly cause damage to the immediately adjacent communities. There are also economic activities in these areas which might be affected.	IA: Pipeline markers will be placed aboveground every 1 km along the pipeline route. Block valves will be placed every 30 km along the pipeline route. In the eventuality that there is a leak, the 30 km section will be immediately shut off. It is important to note that from the developer's perspective, a leak implies that money is being lost. As such it is in their interest to ensure that all gas is flowing and not lost during the process. The developer will maintain the pipeline on a regular basis to keep it in working order. In terms of the proximity of pipeline in relation to households, the design specification of the pipeline will be amended to accommodate for this. Where the pipeline will be closer to communities, the developers will use a thicker pipe, and in sparsely populated areas (for example, farmlands), a thinner pipe will be used. Where it is closer to communities, the developers will need to work with municipalities (local and district) to ensure that a Disaster Management Plan is in place to deal with a gas pipeline and if there is a leak or disaster. However, the risk of a leak turning into a disaster is very minimal as there are engineering procedures in place that will assist in avoiding such incidences. This is assuming international and national best practices are implemented. KM: In some instances, people move towards developments and then find themselves living in proximity to infrastructure. It is important to query if these settlements were founded before or after the pipeline was installed. Servitude requirements are different based on whether the pipeline is for transmission, distribution or reticulation. Transmission pipelines are for high-pressure gas, and safety distances from settlements will need to be calculated once a proposed route has been identified (quantified risk assessment). Distribution and reticulation pipelines are of a medium and lower

Queries or Comments Raised	Responses
	pressure, and reticulation pipelines could be placed closer to settlements. The safety requirements are different for different types of pipelines. Post-Meeting Note: A safe distance from a gas transmission pipeline would be 1 km in terms of households, schools, small commercial buildings and dense population areas. However, from an industrial perspective, where gas needs to be supplied to industries then the pipeline would have to be in close proximity to an industrial area. The gas supply to households and small commercial buildings would be through distribution and reticulation of the pipeline (which is not part of the scope of this SEA). The maintenance operation called "pigging" will be carried out after every 5 years usually for cleaning and inspecting the inside of the gas pipelines without stopping the flow. Gauging pigs will be launched to check if there are any obstructions or diameter reduction within the pipeline followed by the cleaning pig. A number of intelligent pigs (magnetic and ultrasonic data collecting devices) will launch after this for varying purposes (i.e. leak detection, corrosion detection, metal loss inspection and geometry inspection). The data collected from this operation should be sufficient to guide the focus on potential sections that are critical until the next pigging operation. In addition to the maintenance operation, there are other preventative maintenance such as cathodic protection to protect the pipeline against the surrounding induced currents and pipeline coatings to prevent further corrosion, which has the potential to damage the pipeline. It is the responsibility of the pipeline owners to ensure that their assets (transmission pipelines) are maintained effectively.
WM: I am aware of a process that was done for an oil pipeline between Maputo and Mpumalanga, whereby the pipeline was used to transport various products. Will the gas pipeline be transporting one gas or multiple gases? What are the servitude requirements when there are two pipelines in the same corridor?	AW: Generally, if two gas pipelines need to run parallel, they need to be at least 5 - 10 m away from each other. DF: The pipeline will only transport natural gas. It is not possible to transport different products through the pipe or to mix substances. The SEA is assessing the pipeline for high pressure transmission gas and not distribution or reticulation gas. KM: Mixing of contra-distinct substances is prohibited as it can induce an explosion. Post-Meeting Note: Multiple hydrocarbon liquid products such as diesel, kerosene, and gasoline, are often transported in a single pipeline in batches as this is usually more cost effective compared to using separate pipelines for each product. Since the products transported in the pipelines are potentially hazardous to the environment and people in areas surrounding the pipeline, sound engineering standards and practices should be followed. These design standards and considerations are crucial when designing, installing, and operating a multi-product pipeline. Refer to the American Society of Mechanical Engineers (ASME B31.4). It is important to note that hydrocarbons are organic molecules of the same family so the products should be interchangeable or not far off in terms of specifications otherwise, considerably different products may induce a negative chemical reaction, which may cause an explosion. The transmission pipeline corridors assessed in this SEA are for natural

Queries or Comments Raised	Responses
	gas and not for liquid fuels.
SM5: How long will it take for leaks to be detected?	IA: The time needed to detect a leak is immediate. If there is a leak, the pressure drops and the valves will be shut down automatically for that specific portion of the pipeline.
SM5: In terms of work opportunities, it is common knowledge that people who are unemployed will be happy for the short-term contract work that will be available. However, it should be noted that due to the technology and skills required, opportunities will be mostly for people who are outside of the affected areas.	IA: There will be short-term employment opportunities available but looking at the future we need to ask ourselves why we are installing the Gas Network and EGI. This is all being done to make ensure that we give power to stakeholders. Providing gas for industry means economic growth and longer-term jobs. Provision of electricity to rural communities enables small businesses to grow.
SO: Responses on the detection of leaks have been noted. However, I want to establish if the size of a leak matters. Will a pinhole leak be detected as it can add to climate change?	IA: No matter the size of the leak, it will be detected. DF: Due to the pipeline being under high pressure, pinhole leaks cannot be allowed because pinholes may become ruptures. There is no level of acceptability of leakage irrespective of the size. KM: A maintenance and inspection plan will be implemented during the Operational Phase. Pigging will be undertaken to monitor the pressure inside the pipe. Once the data is received, the operators check if the pipe is compromised in any way. Post-Meeting Note: The leak detection period is immediate depending on the technologies employed in the pipeline but the main parameter to be cognisant of is the potential root cause of pinhole leaks. Pipeline corrosion plays a significant role in any form of leaks. Internal bacteria from the product inside the pipeline and external bacteria from the soil conditions bring forth the formation of corrosion, which results in damage to the pipeline. As noted above, cathodic protection is a measure to combat current induced corrosion, as well as pipeline coating for internal and external corrosion protection. Microbial-induced corrosion may be mitigated in one or a combination of technological measures described below. Pigging results play a significant role in data analysis on the individual pipeline sections. This data can be used to pinpoint areas that require additional monitoring, maintenance or immediate action to prevent an incident. Some technologies may be adopted on those critical sections after data analysis such as specialized cameras (which detect evaporated hydrocarbons), fibre optic cables installed alongside a new pipeline (which detect tiny leaks using thermal and acoustic sensors); and/or sophisticated flow and pressure monitoring.

7. Discussion, Way Forward and Closure

Queries or Comments Raised	Responses
DD made the following remarks: a) I am requesting copies of the Terms of Reference (ToR) that were given to the specialists that were appointed for the SEA.	The following responses are provided: a) Post-Meeting Note: The Scope of Work section of each specialist chapter that was released for public review from 25 April 2019 to 24 June 2019 contains background on the scope of the assessments. A copy of the Terms of Reference will be emailed to DD following the meeting.

Queries or Comments Raised	Responses
b) The eThekwini Metropolitan Municipality Planning Department should have been participating in these discussions. Industrialisation in the Durban South was initiated since 1938 and that was long after the settlement of people. c) In terms of the Constitution of South Africa, the Department of Environmental Affairs (DEA) is the guardian of the environment. DEA is now playing both referee and player. DEA is now going to be part of the development, and we must submit our comments to them as well. This appears to be a conflict of interest for the DEA. The DEA is undermining their constitutional obligation. d) It is a major concern that some officials do not actively participate, and some do not stay until the end of the Public Information Sharing Session. I am concerned about the time the CSIR has scheduled for such an important strategic meeting. The first SEA undertaken for the City of Durban in 1998 took three years. The ToR for specialists were rigorously scrutinized and discussed. The current SEA appears to be a rushed job. In October 2018, only three hours were allocated to provide feedback on the SEA and it did not even cover all that needed to be discussed. The time is not enough to holistically deal with the SEA. The CSIR should provide an additional 30 days to the stakeholders to comment on the SEA Process and to consider specialist reports that were done previously to compare. We need to see who the specialists are and how their plans are being developed. Talking from experience, we have observed that specialist reports do not benefit people but benefit the developer. It should therefore be recorded that allocating two hours in October 2018 and two hours in June 2019 is not enough to rigorously discuss the SEA. The slides were also rushed through. e) There was no research done by the CSIR with regards to previous gas pipeline incidents. Two years ago in the Durban harbour people lost their lives as a result a pipeline rupture. There is a gas pipeline in Tongaat that runs nearby a school, which ruptured causing an explosion. Luckily it was school holidays or else children would have lost their lives. To play it down and say there is no risk associated with a gas pipeline is a lie. f) The presentation noted that the SEA was linked to Operation Phakisa and the Strategic Infrastructure Projects (SIPS). However, in the slides we did not see anything about job creation. Operation Phakisa is about	b) Post-Meeting Note: The eThekwini Municipality are well aware of the SEA Process. A representative from the Environmental Planning and Climate Protection Department of the Development Planning, Environment and Management Unit of the eThekwini Municipality serves on the Project Steering Committee (PSC) and Expert Reference Group (ERG) for the SEA. They are therefore part of the ERG and PSC discussions and correspondence. In addition, the municipality has attended all Authority Outreach meetings held for the SEA in November 2017 and October 2018. In addition, all affected municipalities within KwaZulu-Natal, including the eThekwini Municipality, were invited to attend the Public Information Sharing Session on 13 June 2019. It should be noted that the content presented at the 13 June 2019 Public Information Sharing Session is the same as that presented at the 12 October 2018 Authority Meeting in Durban, which was attended by the eThekwini Municipality. They are therefore well aware of the findings of the specialist assessments etc. c) IA: There is no conflict of interest. The Department of Environmental Affairs has a mandate which is to protect the environment to ensure that the ecology is maintained, and that people benefit from a clean environment. The presentation has outlined the suite of specialist studies that were undertaken as part of the assessment. The SEA is identifying areas where there are environmental pressure points. This is done upfront so that the pipeline can move away from sensitive areas, as best as possible. Post-Meeting Note: At the previous meeting held on 11 October 2018, DD mentioned that the CSIR, being the appointed consultants to undertake the SEA Process, cannot be both referee and player by facilitating the meeting as well as presenting feedback on the SEA Process. It was requested by DD that an independent facilitator be appointed to facilitate the meeting, which will then allow the CSIR to present the feedback and findings of the SEA. An independent facilitator was then appointed to facilitate and co-chair the meeting, provide translations as required, as well as to mediate where required. This was accepted by DD at the meeting on 13 June 2019. With regards to the comment made referring to the DEA playing referee and player, it should be re-iterated that the CSIR was appointed by the DEA, Department of Energy, Department of Public Enterprises, Eskom, Transnet and iGas to undertake this SEA Process. The CSIR is also undertaking the SEA in collaboration with SANBI. The CSIR is undertaking the SEA in line with SEA best practice and does not subscribe to the EIA Regulations, as this is not an EIA Process. The developers would, however, need to subscribe to the EIA Regulations and Decision-Making Tools that will be compiled as part of the SEA Process (i.e. Environmental Management Programme, Protocols, and Minimum Information Requirements) once a specific project is ready to be implemented. The DEA is not going to be a part of the proposed gas or EGI developments. The DEA will serve as the Competent Authority for such developments within the corridors, once they are gazetted. This is standard practice as per the National Environmental Management Act (Act 107 of 1998, as amended). As part of the SEA Process, comments need to be submitted to the SEA Project Team (i.e. the CSIR), who will then take them into consideration and provide responses, which may be informed by the Project Partners. d) IA: Regarding the time allocation for the meeting, the team is prepared to go through the presentations again, if required. You are requested to kindly indicate which slides you need the team to go though again. The team is not intending to rush through information but to ensure that you are given the time to understand the contents of the presentation.

Queries or Comments Raised	Responses
creating jobs, and this is not going to create jobs. This is the same thing that the Oil industry wants to do, that is to pollute the marine environment and minimise jobs. g) I am pleased that there has been an acknowledgement that this was a desktop study. Things have changed on the ground. The contents of the presentation on biodiversity is not accurate and does not talk to the biodiversity of the KwaZulu-Natal Province. h) There is no mention of climate change in the study presented. Everyone is aware that Methane Rich Gas is not the solution to climate change. Durban has experienced massive floods over the past year, 70 people have lost their lives, and homes were destroyed. The National DEA is aware of that. The proposed pipeline corridor is going through an area that is sloping, which is a concern. i) The sensitivity analysis is incorrect. People in the rural areas are sensitive to several things and the presentation did not touch on that. The CSIR has its own focus. The Western Cape is all red (i.e. high sensitivity), whilst KZN is all green. KZN appears to be the sacrificial zone. j) Soil erosion was not discussed. Durban beaches have all been destroyed due to soil erosion. k) Mines have been abandoned and not rehabilitated, and harmful substances are being exposed to the poor communities. l) The SDCEA would like a peer review of the SEA, they will appoint the people that will peer review the documentation and CSIR should pay the costs for peer review. m) There was no mention of Alien Invasion in the presentations delivered. n) The Health Risk Assessment was not sufficiently covered in the presentation. o) Organisations such as Birdlife SA should be consulted with during the SEA. p) The documents must be translated in Zulu in order to give fair opportunity to all potentially affected communities. SDCEA will send the	Post-Meeting Note: The SEA Process was commissioned in April 2017. The Inception Phase concluded in June 2017, during which a dedicated Project Website and Project Email Account were created for stakeholders to register their interest, download project information, and submit queries or comments. During the Inception Phase, the PSC and ERG was also commissioned. The ERG and PSC database is continually updated throughout the SEA Process. The PSC includes representatives from national and provincial government departments, and the affected district and metropolitan municipalities. The ERG includes representatives from various organisations, NGOs, and research organisations. A list of the ERG and PSC members are available on the project website (https://gasnetwork.csir.co.za/project-summary/); however for ease of reference these have been captured in Appendix B of these meeting notes. Four PSC and ERG meetings have been planned as part of the SEA. The first meeting was held on 13 September 2017 at the CSIR Pretoria in order to inform ERG and PSC members of the SEA Process, as well as to seek feedback on the draft initial corridors. The second meeting took place on 31 July 2018 at the CSIR Pretoria in order to present the draft findings of the specialist studies and to seek corresponding feedback from the PSC and ERG. In addition, a third ERG and PSC meeting tool place on 4 July 2019 at the CSIR Pretoria to discuss the final corridor alignment with ERG and PSC members. Furthermore, as noted in the SEA Reports, two rounds of Authority Meetings and Public Information Sharing Sessions were undertaken as part of the SEA in November 2017 and October 2018 at various key locations throughout the country. The first round took place from 1 - 13 November 2017, in Springbok, Cape Town, George, East London, Durban and Johannesburg. During this round, the SEA Process and Draft Initial Corridors were introduced, along with the findings of the negative mapping. The second round took place from 8 – 22 October 2018, in George, Port Elizabeth, East London, Durban, Johannesburg, Upington, Springbok and Cape Town. In addition, the DEA arranged an additional Public Information Sharing Session in Durban on 13 June 2019 in order to allow stakeholders to discuss the project, raise queries and receive responses, and to be updated on the progress made and the findings of the specialist assessments. The Public Information Sharing Sessions were held from 17H00 to 20H00 after hours to allow those stakeholders that work during the day to still attend the sessions. This is in line with current best practice and based on previous experience. The concern about timing or duration of the sessions were not raised at the previous 12 Public Information Sharing Sessions. It should be pointed out that the Public Information Sharing Sessions were held for three hours, and not two hours. The level of participation of other stakeholders that attended the Public Information Sharing Session on 13 June 2019 cannot be commented on as this is based on each individual's understanding of the project and their likelihood to raise queries. Nevertheless, the session was run in a transparent, all-inclusive and fair manner that enabled everyone present to participate as they desired. As noted above, the SEA Process was commissioned in 2017 and is still underway. It is expected the outputs of the SEA Process will be completed by the end of 2019, following which they will be submitted for gazetting by the DEA. The SEA Process has not been rushed in any way and due diligence has been undertaken throughout the SEA Process by the project team. As indicated above, consultation is considered an important component of the SEA Process. It should be noted that the Specialist Assessment chapters, and Parts 1 and 2 of the SEA Report, were initially released for stakeholder comment from 25 April 2019 to 10 June 2019. On 6

Queries or Comments Raised	Responses
Project Team a list of stakeholders that need to be communicated with and sent the documents in Zulu. A list of libraries will also be provided so that copies of the translated documents can be placed therein. q) I will send my comments in writing. It is important to note that since 1998 we have been waiting for a Disaster Management Plan for Durban and South Durban. We do not have an emergency plan. The South Durban safety zone has now been developed into a logistics park. These are all concerns.	June 2019, stakeholders were informed that the comment period will be extended by an additional two weeks, and will conclude on 24 June 2019. It was also confirmed at the Public Information Sharing Session on 13 June 2019 that once the Presentation delivered at the session is translated into Zulu and provided to the additional stakeholders identified by DD, an additional 30 days will be provided for the comment period. It is important to point out that this request was made on 13 June 2019 (and the comment period was initiated on 25 April 2019). Therefore, based on the above, it is not believed that the SEA Process has been rushed in any way. From the specialists perspective, the details of the specialists appointed to undertake the studies are captured in Part 3 of SEA Reports that have been made available to stakeholders for review. Specialists were appointed through an open Procurement and Tender Process under the Public Finance Management Act (PFMA), to which the CSIR subscribes to. The following specialists were appointed in November 2017 as part of the SEA: ▪ Biodiversity Assessment Studies: o Integrating Author: Luanita Snyman-van der Walt (CSIR); o Fynbos: Dr. David Le Maitre (CSIR); o Savanna and Grassland: Dr. Graham von Maltitz (CSIR); o Indian Ocean Coastal Belt: Simon Bundy and Alex Whitehead (SDP Ecological and Environmental Services); o Nama and Succulent Karoo and Desert: Simon Todd (3Foxes Consulting) and Lizande Kellerman (CSIR); o Albany Thicket (Gas Pipeline SEA only): Dr. Derek Berliner (Eco-logic Consulting); o Estuaries: Dr. Lara van Niekerk and Steven Weerts (CSIR); o Wetlands and Rivers: Gary de Winnaar and Dr. Vere Ross Gillespie (GroundTruth); o Avifauna: Chris van Rooyen and Albert Froneman (Chris van Rooyen Consulting); and o Bats: Kate MacEwan (Inkululeko Wildlife Services). ▪ Seismicity Assessment: Professor Raymond Durrheim (University of the Witwatersrand) and Brassnavy Manzunzu (Council for Geoscience); ▪ Settlement Planning, Disaster Management and related Social Impacts (Gas Pipeline SEA only): o Integrating Author: Surina Laurie (CSIR); o Settlement and Development Planning: Elsona van Huyssteen; Cheri Green; Dave McKelly; and Zukisa Sogoni (CSIR); and o Disaster Management: Professor Doreen Atkinson (Nelson Mandela University). ▪ Socio-Economics Assessment (EGI Expansion SEA only): Surina Laurie (CSIR); ▪ Visual Assessment (EGI Expansion SEA only): Quinton Lawson and Bernard Oberholzer (Quinton Lawson Architect); ▪ Gas Opportunities Analysis (Gas Pipeline SEA only): Rae Wolpe (Impact Economix); and ▪ Agriculture: Johann Lanz (Independent Consultant).

Queries or Comments Raised	Responses
	The specialist expertise is also included in Part 3 of the SEA Reports. As noted above, the actual Specialist Assessment chapters have been released for public review. Hence, stakeholders can have a look at the findings of their reports, as well as the methodologies adopted. Independent specialists were appointed and each specialist was required to complete a declaration of independence (Appendix A of Part 3 of the SEA Reports), which serves as assurance that the findings of these studies are not swayed to benefit the developer. e) IA: The DEA does not downplay the environmental affects that have taken place in Durban recently. The new administration took over in 1994 almost 60 years after the first pipelines were put in place. The new government administration is doing things differently because they do not want the same impacts that we have experienced in the past to recur. As an example, previously, the mitigation for an asbestos mine was to put a fence around the mine, although the particles are still in the air and affecting the nearby communities. The past practices are now being rectified to ensure that the environmental impacts are considered for all new developments. Post-Meeting Note: Parts 1 and 2 of the Gas Pipeline SEA Report discuss potential leaks and emissions from the Gas Pipeline. Part 2 of the Gas Pipeline SEA Report also discusses previous incidents that have occurred on other gas pipelines in South Africa. In addition, the specialist assessments have assessed the risk of the gas pipeline on the surrounding environment. The Settlement Planning, Disaster Management and related Social Impacts chapter considers key social, settlement planning and development considerations relevant to the development of the gas pipeline corridors, and outlines the various parties that need to be involved in disaster management as part of the proposed gas transmission pipeline operations. This chapter also assesses Health and Safety impacts associated with the operation of a gas transmission pipeline, as well as Health Risks associated with a gas transmission pipeline leak or fire. Adequate mitigation measures have been provided for these impacts, such as ensuring that a metre by metre risk assessment is undertaken over the entire length of the pipeline, ensuring that all threats are eliminated or at least minimised such that risk of leak/rupture of the pipeline is avoided or at least reduced to As Low as Reasonably Practicable (ALARP). Therefore, it is not stated in the SEA Reports that there is no risk associated with a gas pipeline, nor is the risk down-played. f) IA: Operation Phakisa and the SIPs are big developments that have been identified through the National Development Plan (NDP). The NDP was developed for the people of South Africa and has been extensively consulted. Post-Meeting Note: As part of the SEA Process, the potential employment opportunities during the construction phase, the exact transhipment/distribution points or employment likely at these points and relative quantity and cost of gas cannot be specified. This level of information can only be specified on a project specific basis. Therefore, the Settlement Planning, Disaster Management and related Social Impacts chapter considered the following assumptions in this regard: ▪ Limited short term local employment opportunities will be created, mainly during construction; ▪ Limited long term maintenance employment will be created, mainly with a level of skill required; and

Queries or Comments Raised	Responses
	▪ Some long term employment at main distribution points will be created. Therefore, any potential job creation would be during the temporary construction phase (if the construction of the proposed pipeline does materialise and the extent of such jobs would be determined per project, based on its business case). g) IA: It must be noted that the maps and information presented at the session is representative of the big picture. The corridors have been identified and will be refined at the end of the SEA Process. Once the corridors are gazetted, the developer must then eventually select the best routing for the pipeline within the corridors based on the pre-assessment undertaken as part of the SEA. However, all pipeline or EGI routes identified per project will need to be ground-truthed. If the desktop study indicates that there are protected frogs in a particular area, the developer would need to appoint a specialist to physically observe if that is the case. Post-Meeting Note: The Specialist Assessments undertaken are largely desktop based (with the exception of the Albany Thicket Biodiversity Assessment which included a fieldwork component to verify sensitive areas). There are many factors that contribute to the desktop nature of the assessment, the main factor being that this is a Strategic Environmental Assessment which entails an assessment of several 125 km corridors that span a great extent of South Africa (note that the entire corridor will not be developed with gas pipelines or EGI). Therefore, the assessments rely heavily on existing data as well as experience gained by specialists on field work undertaken across South Africa on other projects. Once a specific project has been identified and the route of the infrastructure has been identified, the findings of the SEA would need to be verified on site any way. h) IA: What is the solution to climate change? Coal is not, methane is not, and so are we only supposed to source energy from renewable sources? The Integrated Resource Plan (IRP) looks at the amount of power (electricity) that is needed by the country and how this is going to be supplied (i.e. coal, solar, methane and nuclear). Greenhouse gas (GHG) emissions from the proposed pipelines will be considered on a project specific basis, as part of the Environmental Authorisation Process. Post-Meeting Note: Based on feedback received during the Authority and Public outreaches regarding climate change and GHG emissions, detail regarding leaks and GHG emissions were provided in Part 2 of the Gas Pipeline SEA Report that was released for public comment. The SEA has not undertaken Climate Change Models. However, some of the Specialist Studies do factor in climate change in terms of impact and spatial relation to climate change. Critical Biodiversity Areas factor in adaptability to biodiversity changes as a result of climate change. Climate change will for example result in a shift of a particular biome and therefore the sensitivity and measures for that type of biome will apply in that shift. i) IA: When the site specific Environmental Authorisation processes are undertaken, there is a requirement to engage with the affected communities, which will enable the assessment practitioner or specialist to determine what is sensitive for these communities and what is not. As an example, heritage impacts and impacts on graveyards can be investigated in detail, etc. These specifics are dealt with at a project

Queries or Comments Raised	Responses
	specific Environmental Authorisation level. j) IA: The issues of soil erosion are very pertinent to a gas pipeline. The studies have looked at sensitive areas and several factors including soil erosion. **Post-Meeting Note**: Furthermore, a geotechnical assessment will be undertaken on a project specific basis, which will assist with identifying areas prone to soil erosion. k) IA: The government has measures that deal with the rehabilitation of mines separately. **Post-Meeting Note**: Rehabilitation of mining areas does not fall within the scope of this SEA. l) IA: On the issue of peer review, DEA is willing to get the documents peer reviewed. However, the SDCEA would have to seek funds to pay for the review. **Post-Meeting Note**: It should be noted that the Specialist Assessments undertaken as part of the SEA Process have already been subjected to Peer Review in 2018. The details of the experts that undertook the Peer Review process are provided in Part 3 of the SEA Reports, which were made available for public review on 25 April 2019. Academic peer review of the specialist chapters promotes overall robustness of the process and ensures that scientific credibility is upheld. The expert peer reviewers were identified from existing scientific publications collected throughout the process and through nominations from the SEA Project Team, general stakeholders, ERG and the Specialists. A total of 12 peer reviewers for the EGI Expansion SEA and 13 peer reviewers for the Gas Pipeline SEA, from NGOs, academia and research institutions; and the private sector provided peer review comment. It should be reiterated that apart from peer review, the reports were also made available to stakeholders for comment, including the ERG and PSC. m) **Post-Meeting Note**: The impact of the establishment and spread of Alien Invasive Plants have been assessed in the Biodiversity Assessment Specialist Chapters, which were made available for public review in April 2019. Adequate mitigation measures have been captured in these reports. In addition, the presentation delivered at the Public Information Sharing Session on 13 June 2019 did note the introduction and establishment of alien species as a key impact in terms of terrestrial and aquatic ecology, with mitigation measures discussed. Alien invasion was also discussed in the presentation in terms of environmental attributes (i.e. prickly pear being dominant in the Nama Karoo biome, and the Fynbos biome being highly susceptible to alien invasion). n) IA: The impact of the infrastructure on specific affected communities will be considered during the project specific Environmental Assessment phase, once there is a need and demand for the project, as well as an identified source of gas. The aim is to protect the environment for the benefit of the communities. We are content with the scientific integrity of the studies undertaken as part of the SEA, and anybody is welcome to challenge the findings should they deem it necessary. o) **Post-Meeting Note**: Refer to Appendix B of these meeting notes for a copy of the departments, municipalities and organisations that serve on the PSC and ERG that provide valuable input into this SEA

Queries or Comments Raised	Responses
	Process. BirdLife South Africa does serve on the ERG. A list of the ERG and PSC members are also available on the project website (https://gasnetwork.csir.co.za/project-summary/). In addition, BirdLife South Africa was the official expert peer reviewer of the Avifauna Assessment. Overall, BirdLife South Africa were happy with the Avifauna Assessments. A copy of all peer review reports and responses from the specialists are provided in Appendix B of Part 3 of the SEA Reports. p) IA: In closing, SDCEA will send the Project Team a list of additional community members to consult with, as well as a list of libraries that the hard copies need to be placed at. A high level summary of the slides presented at the Public Information Sharing Session will be translated to Zulu and provided to the recommended additional community members and libraries. An additional 30 day period will be provided to allow for comment, commencing from the day that the documentation is received by the libraries and additional community members. The Project Team will also send a copy of the Specialist ToR to DD. **Post-Meeting Note**: BS has been requested to translate the Background Information Document and presentation delivered at the meeting to Zulu. Once it has been translated, the CSIR will send it to the meeting attendees. In addition, on 18 June 2019, the SDCEA provided the CSIR with a list of additional stakeholders that need to be consulted with. It should be noted that the advertisement placed in May 2019 in the Isolezwe newspaper covered the areas identified by SDCEA. In addition, the SDCEA provided a list of libraries where hard copies of the Background Information Document and presentation need to be placed. The Background Information Document and presentation were emailed to the additional stakeholders and hard copies were couriered to the identified libraries on 8 July 2019. q) FD: A basic search online has confirmed that the eThekwini Municipality does have a Disaster Management Plan in place. AW: It is important to note that the outcome of the Specialist Assessment was that a Disaster Management Plan would need to be compiled specifically to deal with the proposed gas pipeline. **Post-Meeting Note**: The Settlement Planning, Disaster Management and related Social Impacts Assessment has rated the eThekwini Municipality to have a *Good* Disaster Management capacity.

The meeting closed at 21:15

A.7.9 Formal Submissions and Comments from I&APs during the Review of the Draft SEA Report Chapters and Specialist Assessments

The SEA team has received numerous inputs from a range of stakeholders throughout the SEA Process. Although all inputs received and discussions at meetings were taken into consideration during the process, only the formal submissions received during the review period (25 April 2019 – 24 June 2019) are included in this Appendix.

Richard Worthington, Friedrich-Ebert-Stiftung; 6 May 2019

Page 1

From: Richard Worthington
Date: Monday**,** 06 May 2019 at 3:38 PM To: Dee Fischer
Cc: Peter Lukey
Subject: Query re Gas Pipeline and EGI Expansion SEA: Release of Specialist Assessment Chapters for Stakeholder Review

Dear Dee

I was rather dismayed to see recent output of the **SEA for the Gas Pipeline and Electricity Grid Infrastructure Expansion**.

In the 'Gas pipeline SEA' – doc linked below – which is ostensibly a Specialist Assessment and includes consideration of impacts The words leak, leakage and fugitive [for methane] do not appear at all!

While I realise that the focus here is on the location and routing of pipelines, and thus the merits of gas vs other energy options are not in the scope, this doc does note under Potential Benefits (page 30):

"Environmental benefits through a reduction in CO2emissions: LNG is likely to grow in importance as a fuel of the future due to its lower CO2emissions when compared to coal and petroleum liquids."

The CSIR does invite comment on the docs, but I thought I'd mention this to you, too, as I understand it is DEA who commissioned CSIR to undertake the SEA, yes?

With the US EPA having found that leakage rates of 2.8% (well to point of use) would render the life-cycle CO2 emissions of gas equivalent to those of coal, surely they should at least note this as an important issue?

I'm not expecting you to get back to me on this – just had to draw attention to iy.

Yours
Richard Worthington
Project Manager Climate and Energy
Friedrich-Ebert-Stiftung South Africa Office

Tel: +27 11 341 0270
Fax: +27 11 341 0271
www.fes-southafrica.org

Mr. Paddy G. Norman, WESSA, Southern Kwazulu-Natal and Coastwatch, 31 May 2019

Page 1

From: "Paddy Norman" <paddyn@telkomsa.net>
To: "'gasnetwork'" <gasnetwork@csir.co.za>
CC: <margaret@burgerip.co.za>
Date: 31/05/2019 14:47
Subject: RE: Gas Pipeline and EGI Expansion SEA: Additional Durban Public Information Sharing Session

Thank you for notifying me of this follow-up meeting. Unfortunately I have a previous commitment on the 13th June and will probably not be able to get to Durban. Please record my apologies.

As far as I am concerned, the critical factor in this SEA process is the requirement to show that the development of a nationwide gas infrastructure is justifiable:

- Firstly, that the environmental impact of gas development and utilisation is quantifiable and will not contribute to global warming and its long term negative impacts. Given the Precautionary Principle required by NEMA, and given the recent fatalities due to climate events, this requirement is not negotiable.
- Secondly, that the capex of ALL the required infrastructure and associated activities, including prospecting and extraction, could not more beneficially be applied as an investment in "green energy".
- Thirdly, that the potential vulnerabilities of pipeline and other associated infrastructure to both human and natural damage can be managed within South Africa's socio- economic constraints. Given the level of service delivery protests gas pipelines could become sitting ducks, and consequently will rapidly evolve into rogue white elephants.
- Fourthly that the infrastructure will provide direct and sustainable benefits for ALL the affected local communities.
- Fifthly, That the alternative of moving large-scale consumers closer to the energy source, thereby minimising both infrastructure capex and risk, is not viable.
- Sixthly, that the economic benefits will predominantly accrue to South Africa, and not be transferred offshore to benefit non-residents.
- And finally that the long term economic benefits significantly outweigh the real costs of all the negative environmental and social impacts.

It would appear that due to inadequate data most of these issues are not comprehensively addressed in the reports which I was able to access in the time given. Please ensure these comments are recorded in your minutes and in the full report.

Regards
PG Norman,
Branch Chairman: WESSA, Southern Kwazulu-Natal Member: Coastwatch

From: gasnetwork <gasnetwork@csir.co.za>
Sent: 24 May 2019 12:11 PM
To: gasnetwork@csir.co.za
Subject: Gas Pipeline and EGI Expansion SEA: Additional Durban Public Information Sharing Session

Good day

We trust that you are well.

Further to the discussions held at the CSIR Offices in Durban on 11 October 2018, regarding the Gas Pipeline and Electricity Grid Infrastructure (EGI) Expansion SEA, the Department of Environmental Affairs (DEA) is arranging an additional Public Information Sharing Session in Durban in order to allow stakeholders to discuss the project, raise queries, and to be updated on the progress made and the findings of the specialist

assessments. As indicated in the email correspondence sent on 25 April 2019, the Specialist Assessment chapters, and Parts 1 and 2 of the SEA Report, were released for comment from **25 April 2019** to **10 June 2019**. Please visit the project website to download the information, using the links provided below:

Gas Pipeline SEA: https://gasnetwork.csir.co.za/resources/gas-pipeline-sea-draft-sea-report/
EGI Expansion SEA: https://gasnetwork.csir.co.za/resources/egi-expansion-sea-draft-sea-report/

The Public Information Sharing Session details are indicated below (directions to the venue are enclosed):

Date:	**Thursday, 13 June 2019**
Time:	**17:00 to 20:00**
Venue:	**CSIR: 359 King George V (5th) Avenue, Durban, 4013**

Kindly note that an independent facilitator will facilitate the session.

Kindly confirm attendance and submit the details of the attendee(s) to the CSIR Project Team using the contact details provided below, by **04 June 2019**. Thank you for your input to this SEA Process.
Kind Regards,
Gas Pipeline and EGI Expansion SEA Project Team: Annick Walsdorff and Rohaida Abed

CSIR - Environmental Management Services
P. O. Box 17001, Congella, Durban, 4013 Tel: 031 242 2300
Fax: 031 261 8172
Email: gasnetwork@csir.co.za
Project Website: https://gasnetwork.csir.co.za/

Comment from City of Cape Town, Energy & Climate Change Directorate, 23 May 2019

Page 1

Stakeholder Reviewer Name	Page Range	Line/s	Table/Fig/ Box/Map	Reviewer Comment
Bongani Sithole	**3**	**51**		City of Cape Town contribution with new 360MW of OCGT in 2030
Bongani Sithole	3	53		The gas include LPG as well.
Bongani Sithole	3	53		The statement will be true if Eskom and Manucipality (COCT) convert to gas
Bongani Sithole	8	58		COCT to demonstrate and present detailed studies required to inform the disired energymix post 2030 as well.
Bongani Sithole	8	96		To include OCGT - 36MW and 42 MW Athlone and Roggiebaai respectively.
Bongani Sithole	10	16		Demand assessement for COCT may be included together with the western cape submission.
Bongani Sithole	10	30		A lot have been developed since 2017 data, that is presented by Gray, 26 Septemeber 2017. my view will be other stackholders should be given a chance to participate as well.
Bongani Sithole	10	55		MRG, the Lilly Pipleline has been existing for some time and witnessed few intake for distribution market. Due diligence I believe is included to demostrate feasibility of this project.
Bongani Sithole	10	105		Should also be viewed from the external contribution of gas into the country.
Bongani Sithole	13	2		The constitution chapter 7: local government: section 156(2); 153(1)(b); 155(6)(a) and (7) should be among the framework legislating the gas related acts, with the view that the proposed pipe line will be installed in the manicipal lands/ due restriction.
Bongani Sithole	13	58		PASTEL analysis must be clearly evaluated and demostrated to show the value and benefit to the SA cittizens.
Bongani Sithole	13	121		In addition to viable business case must be extended to the initiatives that are not listed for phase 1 - 7.
Bongani Sithole	14	114		The various SEA Project Team members - also to be extended to invite AMEU representative.
Bongani Sithole	18		figure 11	Add transmission as follows; SEA for the phased transmission pipeline network
Bongani Sithole	22	22		The COCT may support the argument that the rational for old Athlone Power Station decommissioning open up opportunity to invest with renewables - new Gas Turbines as per the draft 2018 IRP by 20130.
Bongani Sithole	22	54		Capet Town also have full potential and willingness to participate to LNG to Power IPP Programme and provide anchor gas demand simillar to the Port of Ngqura and Richards Bay.
Bongani Sithole	26	35		The COCT have commissioined the demand for gas for electricity generation study.
Bongani Sithole	36	32.3		The city of cape town are in the process of assessing the study to generate electricity using gas. And should be the case we are requested to participate the City will consider such a direction.
Bongani Sithole	39	21		The duck curve presented illustrate Califorina load profile. It will be interesting to model South Africa demand profile.
Brian Jones	General	General		Was the new brulpadda gas find considered in the study?
Adrian Stone	General	General		Are fugitive emissions considered in the study?
Edgar Capes	General	General		Will City of Cape Town have access to the pipeline or only Transnet
Shaazia Bhailall	General	General		Has the pipeline engineering been predetermined or will the SEA determine the engineering? Where below/above ground seems more feasible given the surrounding conditions this should be seen as an option?
Shaazia Bhailall	General	General		Has the EGI expansion in the north considered severe weather and cyclonic evens exposure?
Shaazia Bhailall	General	General		Has climate change effects been considered in the sensitivity analysis? There are very good GCM's that have been used to determine the impact of climate change on the different biomes. This should be considered as the current areas chosen might change drastically in 10 years time when the pipeline is ready to be installed.
Shaazia Bhailall	General	General		Is road transport of gas or containerised also being considered in the study should some places not have distribution networks?
Shaazia Bhailall	General	General		Some metro municipalities are looking to the possibility of gas distribution. Have these studies been considered in the current SEA?

Comment from City of Cape Town, Community Services and Health Directorate, Specialised Health Services, 23 May 2019

Page 1

CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

COMMUNITY SERVICES AND HEALTH DIRECTORATE

Werner Geldenhuys
Senior Technician

T: +2721 400 2896 **F:** +2786 202 8735
E: werner.geldenhuys@capetown.gov.za

Ref. no.:
Date: 23 May 2019

MEMORANDUM

Re: Comment: SEA for the Development of a Gas pipeline Network and EGI expansion.

To: Stephanie Coetzee
Assistant Environmental Professional:
Environmental and Heritage Management Branch

1. **Assessment of application:**
This office has scrutinised the mentioned draft SEA report and can comment as follow:

The application was assessed in light of *The Western Cape Noise Control Regulations PN 200 of 2003* and *SANS 10103:2008 – The measurement and rating of environmental noise with respect to annoyance and to speech communication*.

The following descriptions i.t.o the above mentioned legislation is applicable to this application.

"Disturbing noise" *means a noise, excluding the unamplified human voice, which –*

a) *Exceeds the rating level by 7dB(A);*
b) *Exceeds the residual nose level where the residual noise level is higher than the rating level;*
c) *Exceeds the residual nose level by 3dB(A) where the residual noise level is lower than the rating level; or*
d) *In the case of a low frequency nose, exceeds the level specified in Annex B of SANS 10103.*

"Rating level" *means the applicable outdoor equivalent continuous rating level indicated in Table 2 of SANS 10103.*

"Residual noise" *means the all-encompassing sound in a given situation at a given time, measured as the reading on an integrated impulse sound level meter for a total period of at least 10 minutes, excluding noise alleged to be causing a noise nuisance or disturbing noise.*

"Noise nuisance" *means any sound which impairs or may impair the convenience or peace of a reasonable person.*

"Property projection plane" *means a vertical or horizontal plane, whichever is applicable, on a boundary line of premises defining a boundary of the premises in space.*

"Day-time": *06h00 – 22h00*
"Night time": *22h00 – 06h00*

***Regulation 4: Land Use** states:*
*4 (1). The local authority, or any other authority **responsible for considering an application** for a building plan approval, business licence approval, planning approval or **environmental authorisation**, may instruct the applicant to conduct and submit, as part of the application—*

*(a) **a noise impact assessment in accordance with SANS 10328 to establish whether the noise impact rating of the proposed land use or activity exceeds the appropriate rating level for a particular district as indicated in SANS 10103;** or*
(b) where the noise level measurements cannot be determined, an assessment, to the satisfaction of the local authority, of the noise level of the proposed land use or activity.

2. Discussion:

The City of Cape Town Noise Unit acknowledges that the SEA is a high level assessment to investigate the probability and, risks and impacts this project may pose to the South African community in close proximity to the indicated corridors for the gas pipeline and the EGI.

Although the transport and conveyance of gas through a pipeline, on this magnitude, will be new to South African community, there are other parts of the world where this has been the norm for many years.

In preparing this response, reports on the environmental noise impact of gas pipelines in several other countries were considered.

According to an article presented to the International Pipeline Conference in 1996 *(David C. DeGagne (1996). Managing Environmental Noise Associated with Pipeline Facilities in Canada. International Pipeline Conference – Volume 1, Alberta)* DeGagne states: ***"pipeline operators must treat environmental noise control as an integral part of project concept and design and not as an after-thought or additional non-core responsibility".***

The statement is further supported with a discussion on the components and equipment relevant to a gas-pipelines, which cause environmental noise nuisance.

This unit acknowledges the indication that this will be a sub-surface pipeline installation. The installation project is at this point accepted to have a construction phase and operational phase, both of which will have environmental noise impacts unique to the relevant activity or component.

More detailed applications would have to be presented to this unit, in order to make specific requirements.

It must be noted that the existing SEA do not cover engineering reports pertaining to the specifics of the pipeline installation an ancillary equipment.

The location and magnitude of transmission substations for the upgrade to the EGI is also a point of interest to this unit. This unit will comment there-on as the detailed EA applications are submitted to the City of Cape Town.

3. Comment:

In terms of the *Western Cape Noise Control Regulations, PN 200 of 2013, Regulation 4* the City of Cape Town Specialised Environmental Health: Noise Unit therefore would require:

3.1 A **formal noise impact assessment** in terms of ***Regulation 4(1)(a)***, must be conducted in terms of the SANS 10328:2008 Methods for environmental noise impact assessments for the project phases falling within the boundary of the City of Cape Town. The NIA must address the construction phase of the actual pipeline, as well as the installation and operation of supporting equipment to the gas pipeline.

3.2 The above requirement will also be applicable to the detailed project level environmental authorizations for transmission substations and related EGI infrastructure.

3.3 A **noise management plan**, detailing measures of continuous control (for the entire lifespan of project) applicable to all phases and components (pipeline equipment) of the pipeline project and transmission substations and related EGI infrastructure should be developed and submitted to this unit for consideration.

3.4 The proposed activity **must remain compliant with the provisions of the Western Cape Noise Control Regulations, PN 200 of 2013**

3.5 All detailed project level environmental authorizations applications for the pipeline and EGI equipment installations, within the boundaries of the City of Cape Town must be submitted to this unit for comment.

This comment is based on information available at the time, and is as complete as possible. Should new information become available or should conditions change the report and comment on this application may be reconsidered by this office.

Regards
Werner Geldenhuys
Senior Technician – Specialised Health Services

Comment from Angila Joubert, Bergrivier Municipality, 6 June 2019

Page 1

Stakeholder Reviewer Name	Draft SEA Report (Gas Pipeline SEA)	Chapter	Page Range	Line/s	Reviewer Comment
Gas Pipeline SEA	Settlement Planning, Disaster Management and related Social Impacts	59	28		Will the outline for this process initiation plan be communicated to the affected muncipalities well in advance as this can be a very sensitive and prolonged process?
Angila Joubert	General on both	Affected Municipalities_2_Final document			Piketberg to reflect at Bergrivier Municipality as this is the head office location for the municipality.

Charles Geldenhuys, Drakenstein Municipality: Electro Technical Services, 7 June 2019

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DRAKENSTEIN
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Civic Centre, Berg River Boulevard, Paarl 7646

Enquiries: C Geldenhuys
Contact number: 021 807 4663
Reference: 16/2
Date: 07 June 2019

CSIR – Environmental Management Services
PO Box 17001
Congella
DURBAN
4013

Dear Sir / Madam

GAS PIPELINE AND EGI EXPANSION SEA

With reference to your mail dated 25 April 2019.

There will be no direct impact or influence to Drakenstein Municipality regarding these extention of corridors and therefor no comments at this stage, although it will be very interesting to monitor the rollout of this energy plan.

Regards

C Geldenhuys
SENIOR MANAGER: ELECTRO TECHNICAL SERVICES
I:\Depthoof\Hoofdept\Sekretaresse\Geldenhuys\CG07

A city of **excellence**

Janet Solomon, Private/Vanishing Present Productions, 10 June 2019				
Page 1				
STAKEHOLDER REVIEW: <Add Chapter Title>	**introduction + Background**			
Stakeholder Reviewer Name	**Page Range**	**Line/ s**	**Table/Fig/ Box/Map**	**Reviewer Comment**
Janet Solomon	**4**	**21-23**	**1.1**	Please give us an estimate for the duration of this infrastructural development to be fully functional in delivering to the grid. Will there be any marine infrastructure /pipelines developed? Please name the potential marine developments and give their location.
				Please give us an idea of how long it will take for the pipeline to be functional, and then fully functional nationally
		54-55		How many open cycle gas turbine stations are there currently? How many new open cycle turbine stations are anticipated? How many have been converted to gas successfully?
			table 2	1994 - Was there a public participation process involved in this licensing round?
		60-61		Please list the various port facility developments planned? Please list how far they are in development and anticipated completion date. Have the multi-purpose research vessels been acquired?
		97-98		How far offshore will the proposed Sunbird subsea pipeline be? At what depth of water? How long might it be? Will it be flared? If so at what intervals? How will it be inspected for integrity assessments and how will recurring assessments for pipelines outside high-consequence areas be managed?
	11	08-Apr		Have these multiple landowners over whose land the pipelines will potentially run been involved in the public participation process for this SEA?
	12		132	Regards minimising constraints on the environment, please could you supply an estimate on the gas transmission leakage rates calculated as a percentage of gas flowing through the transmission network for this project? Please provide a basis for this estimate, including assumptions about transmissions, storage, distribution and production, repairs and conditioning. How will this loss rate be assessed during operation? Please provide an expected a carbon emissions measurement per phase. Also please highlight how emissions from flaring will be mitigated.
			141	How is enthnodiversity acknowledged in the public particiation process?
	13		6	The project will engage 100s of landowners and traverse1000s of kilometers yet the public participation process has involved only 7 towns in South Africa, with literature in English. Please justify how the consultation with 'the general public' can be considered "extensive".
			36-41	This blanket exemption from further EIA's lacks integrity and I object to it for the following reasons: It leaves potential gains and/or losses at the inter- and intra-species levels; changes in species abundances or human health; loss of habitat; loss of physical connectivity between habitats, and ecosystems and the currently unknown impacts - environmental, societal, archeological, historical, cultural as well as undiscovered species, unaccounted for.
			49	How will the "commonly agreed upon 'Development Protocols'" be decided?
			107 - 111	I object to this. It is imperative that if EIAs are triggered by specific development within this project that they are undertaken to ensure mitigation of negative localised impacts and not that those issues are exempted in the interests of expedience. Norms and standards that apply to one sector would not be appropriate for another sector and be unable to cater for eventualities that may or may not exist in the future.
	15		100 - 103	This SEA has not provided a sufficient evidentiary base to answer key questions around contributions to global warming and climate change by the proposed extraction, processing and distribution of fossil fuels and their consumption to declare that it has forefronted the environment. The SEA perpetuates the assumption that fossil fuel extraction and use can continue without limit.
			119	require not request
	22		65-67	Considering the peak plateau and decline dates between 2020 -2025, and the time frame for this SEA bringing an enormous fossil-fuel based infrastructure online by 2034 it does question the logic, and hence the cost(both environmental and fiscal) of this development.

Comment from Rhett Smart, CapeNature, 10 June 2019

Page 1

CapeNature 20 YEARS 1999-2019
Twenty years of nurturing nature for you

SCIENTIFIC SERVICES

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reference SSD14/2/6/1/2/Gas Pipeline & EGI SEA_South Africa
date 10 June 2019

CSIR Environmental Management Services
P. O. Box 17001
Congella
Durban
4013

By email: gasnetwork@csir.co.za

To whom it may concern

Strategic Environmental Assessment for the Development of a Gas Pipeline Network and Expansion of Electricity Grid Infrastructure (EGI) For South Africa: Draft Specialist Assessment Report Chapters

CapeNature would like to thank you for the opportunity to comment on the project and would like to make the following comments. Please note that our comments only pertain to the biodiversity related impacts of the project.

Due to current constraints, CapeNature will not provide detailed in-depth comment on the reports provided for comment, but will instead provide brief comment on the overall process and methodology and therefore have chosen to not comment in the forms provided.

The approach undertaken is the same as for the previous strategic environmental assessments (SEAs) at a national level for wind and solar photovoltaic (PV) energy and electricity grid infrastructure (EGI). CapeNature provided detailed comments on these processes and therefore the same would apply in this case. The process is most similar to that of the EGI whereby broad corridors have been identified within which the linear infrastructure can be aligned, with both environmental and technical constraints identified within the corridors.

The corridors for the Gas Pipeline Network SEA encompass the majority of the Western Cape with only minor exclusions. With such broad corridors, there should be sufficient options to ensure that the very high and high sensitivity areas are avoided. The extension of the EGI SEA corridors however only encroach into the northernmost parts of the Western Cape in the West Coast District Municipality.

In terms of the broad categories which have been selected in identifying the biodiversity sensitivities, these are supported, with the Western Cape Biodiversity Spatial Plan utilised as the broad overarching biodiversity informant for the Western Cape Province. We do wish to note with regards to the protected area data that there are discrepancies between the various databases and we recommend that there should be engagement with the provincial conservation agencies to ensure the accuracy of this data. Apart from the sensitivities related

to protected areas, it must be ensured that the National Environmental Management: Protected Areas Act (NEM:PAA, Act 57 of 2003) is adhered to. Protected areas should be avoided as far as possible, however if this cannot be achieved it must be ensured that any infrastructure is reflected in the protected area management plan (PAMP) and that there is approval from the management authority. We would also recommend that other non-NEM:PAA conservation areas are included, such as Biodiversity Agreements as high sensitivity.

We do wish to query the specialist studies that were undertaken as it appears that this is a replication of the SEAs for wind and solar PV and EGI, without particular reference to the impacts related to the subject activity, namely gas pipelines. For the aforementioned SEAs there are specific impacts related to flight, both for fauna and aircraft, however gas pipelines do not pose this same particular risk. The impacts on birds and bats would be encompassed in the impacts related to habitat loss which would be relevant to all fauna.

The impacts related to habitat loss are encompassed in the sections related to the biomes traversed, and there is reference to both fauna and flora. In this regard we do wish to note that the loss of habitat is the most significant cause of the loss of biodiversity by a considerable margin. If any fauna could be considered to have a specific impact as a result of gas pipelines that is not encompassed by the biome chapters, it would be subterranean fauna as a result of excavation. Impacts on avifauna would of course still be relevant for the EGI Expansion SEA.

CapeNature recommends that a Generic Environmental Management Programme (EMPr) is compiled for the construction phase for the gas pipelines as was compiled for the EGI SEA. Implementation of appropriate mitigation measures can significantly reduce the impacts related to this activity. The EMPr must include measures related to each of the different methodologies for laying of the pipeline, which would include trenching, pipe-jacking and horizontal directional drilling. The selection of the most appropriate methodology must also be included and should take both engineering and environmental considerations into account.

Rehabilitation/restoration must be a key consideration in the EMPr, where the objective must be that the pipeline servitude must be returned to the same condition or as close to this as possible prior to the laying of the pipeline. The action required along the spectrum of rehabilitation to restoration would depend on the condition of the site prior to laying the pipeline, where restoration would be necessary for intact natural vegetation whereas rehabilitation to a cover crop would be adequate on cultivated lands. It is recommended that specialists with expertise in restoration ecology assist with this section of the EMPr and it should be separated into the different biomes in the same manner as the specialist reports currently under review. In this regard we wish to query if the very high sensitivity rating for Albany Thicket is again more relevant for power lines rather than gas pipelines.

CapeNature reserves the right to revise initial comments and request further information based on any additional information that may be received.

Yours sincerely

Rhett Smart
For: Manager (Scientific Services)

cc. CapeNature Land Use
Adri La Meyer, WC Department of Environmental Affairs and Development Planning

Dr. Marco A. G. Andreoli, Independent Geological Consultant and Research Associate, School of Geosciences, Wits University, 14 June 2019

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STAKEHOLDER REVIEW: <Add Chapter Title>	3. KEY SEISMIC-RELATED ATTRIBUTES AND SENSITIVITIES OF THE STUDY 7 AREAS			
Stakeholder Reviewer Name	**Page Range**	**Line/s**	**Table/Fig/Box/ Map**	**Reviewer Comment**
Dr. Marco A G Andreoli	12	28-33	Fig. 1 of Appendix B	The map published by Manzunzu et al. (2019) and here referrred [see Fig. 1, Appendix B] derives its information from the Seismotectonic Map of Africa by Meghraoui et al (2016) that is quoted in the caption. In this earlier paper and map the faults were indicates as: *Active faults (<150 ka)*. A forensic analysis of the quoted publications (Meghraoui et., 2016; Manzunzu et al., 2019) and of available peer-reviewed literature (cf. Steenkamp et al., 2018, S.Afr. J. Geol. 121, 421-430) leads to conclude that the last movement along such faults has been shifted **arbitrarily** from <150 ka to ≤ 2.6 Ma.
Dr. Marco A G Andreoli	14	33-36	Fig. 3	In pages 14 and 15 of the Document its authors maintain the superiority of the Probabilistic Seismic Hazard Assessment (PSHA) method over the parametric-historic (P-H) procedure by Kijko & Grantham (1998, 1999) toward the assessment of the hazard posed by tectonic seismicity. Seismotectonic data in the public domain (as peer review full length articles, University dissertations, open file Necsa Reports and conference proceeedings) indicate that PSHA method, though thoretically correct, is intrinsecally flawed, especially in respect of PGPN coridors 1, 4 and 7 (Richards Bay area) for the reason expressed below.
Dr. Marco A G Andreoli	15	22-23		The elevated seismicity of certain parts of South Africa, namely the Northern Cape, appears to be a recent phenomenon of increasing strain rate, becoming quite apparent in 1996, as shown by Necsa's Vaalputs seismic monitoring records (Andreoli et al., 2009, SAGA Biennial Technical Meeting and Exibition, Swailand, 4 pp; Malephane et al., 2013, 13th SAGA Biennial Technical Meeting and Exibition, Kruger Park, 4 pp.). It is arguable that this episode of enhanced strain rate in the Northern Cape over the past 23 years is a repeat of earlier "swarms" such as those previously experienced at Koffiefontein and Ceres-Tulbach in the 20th century, among others.
Dr. Marco A G Andreoli	20		Table 4	**Corridor 3** - The statement " active faults are confined to mining areas" is wrong, inconsistent with the published data. Gauteng: a <175 ka thrust fault described by Steenkamp et al., 2018, S. Afr. J. Geol. 121, 421-430 in an opencast mine near Brits, West of Pretoria. More examples KZN - Prominent N-S striking neotectonic faults of the East African Rift system displace Quaternary deposits, including the 70 ka lignite of the Port Durnford Formation in the Richards Bay - St Lucia area (Andreoli et al., 1996, and references therein; Jackson and Hobday, 1980, Amer. J. Sci. 280, 333-362).
Dr. Marco A G Andreoli	20		Table 4	**Corridor 4**: the same faults described for corridor 3 continue through northern KN into southern Moambique (Andreoli et al., 2006 and references therein).
Dr. Marco A G Andreoli	Appendix A, 35	lines 5 - 12		**Neotectonic studies**: The only paper quoted in this paragraph is that by Andreoli et al. of 1996. Since this widely referenced paper (and even before) independent researchers and the Necsa-lead team have produced an extensive set of peer-reviewed papers, dissertations and public domain Conference abstracts. It is arguable that the authors of this section should have been taken into consideration at least some of these more recent works to avoid the misinterpretations considered below.
Dr. Marco A G Andreoli	Appendix A, 35	lines 21-22		The statement is indeed quoted almost *verbatim* from Bird et al., 1996. However, the problem rests on that word "primarily" (linee 22)that was inserted to account for those areas of southern Africa where the orientation of Shmax, and Sigma 1 differ significantly from the ouputs of the finite elements computer programme. A more careful reading of the cited references (Andreoli et al., 1996; Bird et al., 2006) and additional publications on the neotectonics of South Africa in the public comain (cf. Viola et al., 2005, EPSL 231, 147-160; Viola et al., 2012, Tectonophysics 514-517, 93-114) would have alerted the authors that the Wegener stress Anomaly as expressed in the western part of South Africa (e. g. the Northern Cape; also: Western Namibia) is **unreconcilable** with the models tested in the paper by Bird et al. (2006). As clearly expressed in those articles the Wegener stress Anomaly represents a region of the southern African plate where Sigma 1 is horizontal (and striking NW to NNW) where all the published geodynamic computer models make it vertical (and SHmax striking NW to NNW)
Dr. Marco A G Andreoli	Appendix A, 35	44-49		Once again an important article, in this case the one by Malservisi et al., 2013, is quoted selectively. Indeed these authors state that "the South African region behaves rigidly, with deformation" of the order of 1 nanostrain yr−1 or less." However, the next sentence reads that "T*he analysis shows some higher strain rates in theeastern region, and the presence of spatially correlated residuals in the Cape Town region and the region east of Johannesburg. Although not statistically significant, the spatial coherence of those residuals* ***could indicate tectonic activity.".*** According to the data presented by Malservisi et al 2013 (cf. Fig. ...) the stations between Hermanus and the Saldana Bay area show a residual velocity vector oriented NW to NNW relative to the stations further to rhe north and east. In northern KN the stations at Richards Bay and Ulundi show weak velocity vectors oriented toward Durban, Pietermaritburg and Ladysmith.

Comment from City of Cape Town, Environmental Management Department, Spatial Planning & Environment Directorate, 14 June 2019

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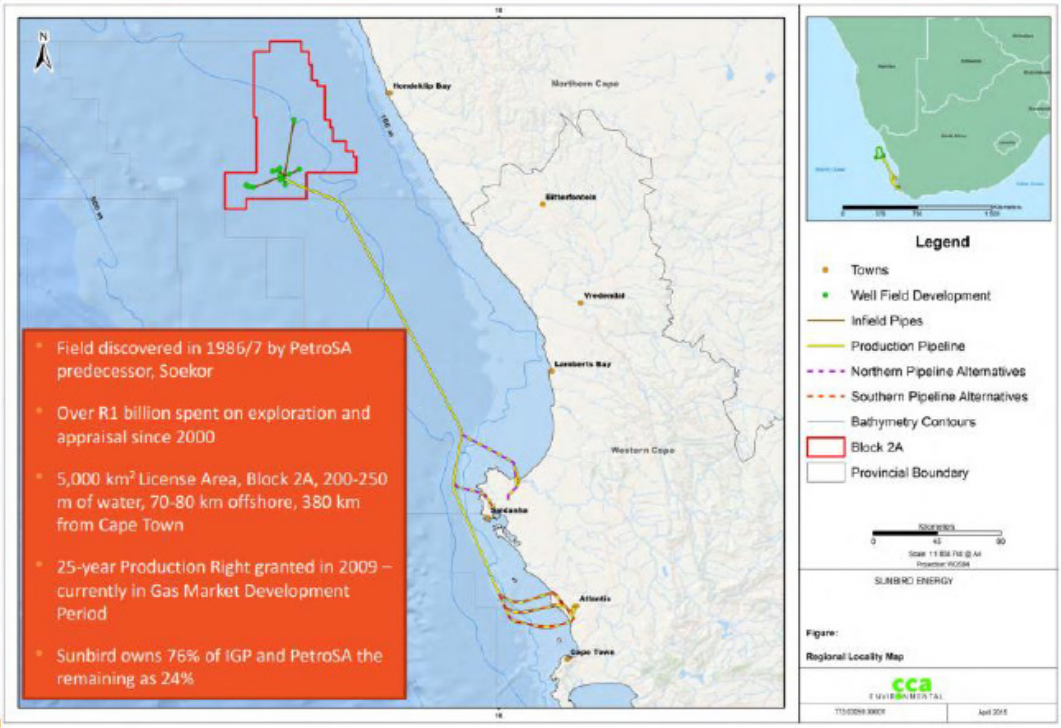
Stakeholder Reviewer Name	Page Range	Line/s	Table/Fig/ Box/Map	Reviewer Comment
Settlement Planning				
Margaret Murcott	**12**	**15-16**		Will be important to ensure that the location data on servitudes, locations of gas pipeline is open and is contained on a stable hosting platform and through a stable institutional framework to avoid loss of knowledge that occurs with political changes and ensure that the location of the infrastructure is not lost.
	17	25		Interface points with transmission lines will be very important to plan in an integrated and strategic way. We will need the precise location of the land site alternatives in order to retain servitudes. There are development pressures in Atlantis with a priority housing area planned to the North of the Industrial area, and housing planned to the South. It will be useful to have the Cadastral layer for the planned Southern alternatives to assist planning. Also note an EIA process is ongoing for a large resort development around Silverstroom Strand. Suggest to contact Mr Morne Theron Morne.Theron@capetown.gov.za
	40	9-10		As some projects in the phase 1 area may be imminent it is important to know the width of servitudes needed and buffer areas in order to reserve options for transmission lines and connection points for Atlantis in particular. In order to integrate with City planning the following processes should be noted: The City is currently undertaking District Plans aiming for adoption 2021 and the next MSDF review will begin in 2020 aiming for adoption in 2022. Amendments to the Muncipal Planning By Law will also need to be considered to ensure protection of servitudes. We specifically need the layout and options for alignment of the servitudes in GIS format or maps on 1:10 000 scale for further information.
	42	7-9		Are good practices available with regard to route design of connections. How will illegal connections be prevented/mitigated?
	60			Please engage Greg Pillay on Disaster Management aspects Greg.Pillay@capetown.gov.za
	107		Table E6	Please note WESCAPE is no longer considered part of the future plans for Cape Town MSDF 2018
Background				
	38	5		A higher resolution or the relevant feature layers for this map will be appreciated.
Section 3.7 Additional Issues (Agriculture, Defence, Civil Aviation, and Heritage)				
Morné Theron	53		Table 10	Table 10: Sensitive Heritage (palaeontology) features fails to list The Melkbossstrand/Bouberg Area in terms of the Battle of Blaauwberg and Koeberg Archaeological Zone as identified in the finer scale City of Cape Town MSDF and Blaauwberg District Plan). This area must be acknowledged in the SEA

Page 2

5 Ibhubesi Northern and Southern Pipeline Alternatives

OVERVIEW: IBHUBESI GAS PROJECT ("IGP")

SUNBIRD ENERGY



- Field discovered in 1986/7 by PetroSA predecessor, Soekor
- Over R1 billion spent on exploration and appraisal since 2000
- 5,000 km² License Area, Block 2A, 200-250 m of water, 70-80 km offshore, 380 km from Cape Town
- 25-year Production Right granted in 2009 – currently in Gas Market Development Period
- Sunbird owns 76% of IGP and PetroSA the remaining as 24%

6

Comment from City of Cape Town, Energy & Climate Change Directorate, 19 June 2019

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CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

ENERGY AND CLIMATE CHANGE DIRECTORATE

Anton Venter
SCP East

T: 021 444 8364
E: Anton.Venter@capetown.gov.za
Ref: Eng19-2744SCPav **Your Ref:** Gas & Electricity Infrastructure

MEMORANDUM

DATE	2019-05-23
TO	Environmental Management Department
ATTENTION	Coetzee S

GAS PIPELINE AND EGI EXPANSION SEA: RELEASE OF SPECIALIST ASSESSMENT

With reference to your e-mail dated 2019-04-30, this department has no objection to this proposal subject to the following conditions:

1. All excavations and underground installations shall be undertaken with approved wayleaves from Telkom and our Civil and Electrical Engineering Directorates. A permit must also be obtained from our Power Distribution Department before any excavation commences and this must be conveyed to the successful contractor upon appointment.

2. Final route approval and any additional condition will be given with wayleave application.

3. Vitally important electrical infrastructure exists in the vicinity of the land in question. A wayleave shall be obtained from the Electricity Services Department before any excavation work may commence on site.

Yours faithfully

pp

DIRECTOR: ELECTRICITY GENERATION & DISTRIBUTION

HEAD OFFICE,BLOEMHOF COMPLEX **I-OFISI ENGUNDLUNKULU, E-BLOEMHOF COMPLEX** **HOOFKANTOOR, BLOEMHOF-KOMPLEKS**
BLOEMHOF STREET BELLVILLE 7530 PO BOX 82 CAPE TOWN 8000
www.capetown.gov.za

Making progress possible. Together.

Gauteng Department of Agriculture & Rural Development (GDARD), Environmental Policy, Planning & Coordination, 19 June 2019

Page 1

GAUTENG PROVINCE
AGRICULTURE AND RURAL DEVELOPMENT
REPUBLIC OF SOUTH AFRICA

Enquiries: Mr. Simon Mafu
Deputy Director: EPPC
Tel: +27 (0)11 240 3422
simon.mafu@gauteng.gov.za

By email: gasnetwork@csir.co.za

Annick Walsdorff
Environmental Management Services
Council for Scientific and Industrial Research
P. O. Box 17001
Congella
Durban
4013

Dear Colleague,

RE: COMMENTS ON THE PHASED GAS PIPELINE NETWORK STRATEGIC ENVIRONMENTAL ASSESSMENT (SEA)

The abovementioned matter refers.

The Gauteng Department of Agriculture and Rural Development appreciate the opportunity afforded to our institution to partake in the review and commenting on the Phased Gas Pipeline Network Strategic Environmental Assessment (SEA). As the Provincial Department of Agriculture and Rural Development, we are mandated to ensure that the natural environment and its interdependent interactions are protected from degradation for the use of current and future generations. As such, the department must ensure the integration of environmental management considerations in the development of policy, plans and programmes at all levels of government.

The opportunity to participate in the process of identifying the phased gas pipeline network provides us the opportunity to ensure the consideration of environmental management practice in national policy, thereby ensuring sustainable development in the country. The department therefore acknowledges the opportunity to influence the direction of development through the information and knowledge that is contributed to this process. The comments into the phased gas pipeline network SEA are attached as Annexure A.

Tel: (011) 240 2500 I Fax: 086 420 1000
56 Eloff Street, Umnotho House, Johannesburg, 2000 I PO Box 8769, Johannesburg, 2000
www.gauteng.gov.za I Hotline: 08600 11000

Should you have any further enquiries on the comments made above, please do not hesitate to contact Mr. Simon N. Mafu, Environmental Officer Control: Environmental Policy, Planning and Coordination telephone number 011 240 3422 or email address simon.mafu@gauteng.gov.za

Kind regards,

Mr Loyiso Mkwana
CHIEF DIRECTOR: SUSTAINABLE USE OF ENVIRONMENT
DATE: 06/06/2019

Department of Agriculture and Rural Development, 56 Eloff Street, Umnotho House, Johannesburg, 2001. PO Box X 8769, Johannesburg, 2000 Tel: (011) 240-2500.
Webste: www.gdard.gpg.gov.za

Page 3

STAKEHOLDER REVIEW:

Stakeholder Reviewer Name	Page Range	Line/s	Table/Fig/Box/Map	Reviewer Comment
PART-1 Background Gas-Pipeline FINAL 110419				
Sinethemba Madondo: GDARD	13		1.2 SEA Rationale	Consideration of GEMF Standards in terms of the conditions for exclusions, is this aligned and would there not be conflict in terms of the zones identified for the EMF exclusions and the proposed gas pipeline plan
Ndivhudza Nengovhela: GDARD	2	1	EGI Expansion SEAPart 1 Introduction	It is suggested that there be a table of accronyms at the beginning of the document so that the reviewer know the meanings before reading the document. Acronyms were to be defined at first use in each section of the report, as well as in the headings of tables.
Ndivhudza Nengovhela: GDARD	175	1	Integrated Biodiversity and Ecology Terrestrial and Aquatic Ecosystems, and species	The workers must also be trained on the site.
Ndivhudza Nengovhela: GDARD	175	1	Integrated Biodiversity and Ecology Terrestrial and Aquatic Ecosystems, and species	During construction phase- The report is quite on dust contol during the construction and how this will be mitigated.
Ndivhudza Nengovhela: GDARD	Part 3	1	Specialist assessment	Traffic Impact Study-impacts on traffic on affected corridors and how are they going to mitigate this.
3.4.2-Annexure Savanna Grassland Gas-Pipeline Final 150419				
Sinethemba Madondo: GDARD	16	N/A	Table 2: Data sources and descriptions of sensitivity fa	Under the row titled 'Critical Biodiversity Areas' there is reference to the provincial datasets. Which provincial GP dataset is being refered to? The CBA for gauteng is refered to as the C-PLAN and the current version being used was updated in 2011 and not 2014.
Sinethemba Madondo: GDARD	16-17	N/A	Table 2: Data sources and descriptions of sensitivity fa	Under the row 'Protected Areas Expansion', the Gauteng Protected Areas Expansion is not considered. This dataset is available from GDARD and it highly recommended that it be considered as it is critical in idenfying potential conservation areas, especially due to the fact that the province is already dealing with rapid biodiversity loss due to development.
3.4-Integrated-Biodiversity Gas-Pipeline FINAL 170419				
Sinethemba Madondo: GDARD	7, 8, 9		3.1 Assumptions and Limitations (Terrestrial ecology)	Sensitivity levels between provinces differ, with some provinces potentially using higher sensitivities than others. Provincial biodiversity conservation plans are used subject to all the assumptions that underpin the creation of those - Based on this statement, which conservation plan then takes precedence especially where the desicion of the EA is concerned?

Comment from April Gehle, Private, 22 June 2019

Page 1

Stakeholder Reviewer Name	Page Range	Line/s	Table/Fig Box/Map	Reviewer Comment
April Gehle	Excel Sheet: Stakeholder Review Comments.	Attached to email from CSIR dated 25-4-19	Excel Spread Sheet	When trying to open this document Microsoft Office warns that a problem has been detected and it may be unsafe to open the document. Therefore I have created my own spread sheet.
April Gehle	Part 3 Page 2	88 -93		Particularly because of the ongoing Zondo Commission of Enquiry into state capture and other investigations into all state owned enterprises. Information coming to light in these enquiries makes it difficult to believe that proper, legal and ethical decisions will be made in relation to the proposed EGI development. https://www.sastatecapture.org.za/
April Gehle	Part 2 Identification Of Power Corridors. Page 8-11	7-11	Table 5	Table 5: Features and datasets used to prepare a high level Environmental Sensitivities/Constraints Map. There are 138 Features given in this table and out of these 54 are rated as very high on the mapping sensitivity environmental constraint. Almost 40% of the proposed area for development. I find this totally unacceptable that so many highly sensitive areas are threatened by this development. Particularly in the light of my comment above and my following comment.
April Gehle	Part 2 Page 19	51-63 92-110		It would appear from these comments that the environmental constraints are not given priority over financial and structural constraints.
April Gehle	Part 3 Page 2	13 -20		Current research is now concluding that natural gas does not have a positive significant role to play in future energy production. 1. International Agency for Renewable Energy. IRENA's Renewable Power Generation costs in 2018 report. https://www.irena.org/publications/2019/May/Renewable-power-generation-costs-in-2018 2. Forbes, Renewable Energy will be consistently cheaper than fossil fuels. https://www.forbes.com/sites/dominicdudley/2018/01/13/renewable-energy-cost-effective-fossil-fuels-2020/#177288674ff2 https://www.forbes.com/sites/dominicdudley/2019/05/29/renewable-energy-costs-tumble/#12758013e8ce 3. Natural Gas will not positively contribute to a low carbon economy. https://www.vox.com/energy-and-environment/2019/5/30/18643819/climate-change-natural-gas-middle-ground https://www.ucsusa.org/clean-energy/coal-and-other-fossil-fuels/environmental-impacts-of-natural-gas
				Page numbers used on the above are the page numbers given on the documents referred to.

Comment from Gerhard Gerber, Western Cape Department of Environmental Affairs & Development Planning, Development Facilitation, 24 June 2019
Page 1

WESTERN CAPE GOVERNMENT: DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND DEVELOPMENT PLANNING

COMMENT ON THE DRAFT SPECIALIST ASSESSMENTS FOR THE GAS PIPELINE STRATEGIC ENVIRONMENTAL ASSESSMENT

DUE DATE FOR SUBMISSION: 24 JUNE 2019

Page 2

STAKEHOLDER REVIEW: Part 1 - Background to the Phased Gas Pipeline SEA

Page Range	Line/s	Table/Fig/Box/Map	Reviewer Comment
3	59	Figure 1	Provide a description for the acronyms CSP (Concentrated Solar Power) and PV (Photovoltaic)
5	2	N/A	Provide a description for bbl/d
10	6	N/A	Correct grammar. Amend sentence to read "to identify at what ~~gas cost~~ **cost gas** switching is an attractive option for.."
12	47 - 59	N/A	Integration between the different competent authorities responsible for environmental authorisation and licensing. Already the different competent authorities are not adhering to the One Environmental System - how will this integration be achieved? It is noted that the National Water Act, 1998 is not included in the Legal Framework (section 1.4, page 12).
12 13 14	36 - 41 46 - 56 109 - 126	N/A	Page 12, Lines 36 - 41: "As an output of the SEA, all future gas pipeline development inside of the Gas Corridors normally triggering an EIA Process in terms of NEMA will either be exempted from obtaining an Environmental Authorisation provided that Norms/Standards/Protocols are enforced or be subject to a streamlined environmental assessment process (e.g. Minimum Information Requirements)." Page 13: Lines 46 - 56: "It should be noted that the SEA Process is undertaken at a strategic level and cannot replace the requirements for project level environmental assessment. The high level environmental, social and economic data utilised to identify the 100 km wide corridors and undertake environmental pre-assessment of the corridors, is not sufficient for project-level decision making. The SEA should therefore be considered as a scoping level exercise used to identify key potential impacts. Additional assessment will be necessary at a project level, together with effective public participation, to determine the significance of impacts and inform environmental authorisation. These requirements will be stipulated in the Decision-Making Tools." Page 14: Lines 109 - 126: "To ensure that gas pipeline development within the corridors are not a cause for delay, the DEA is proposing that such development is either 1) exempt from the need to obtain Environmental Authorisation in terms of the NEMA; or 2) is subjected to a streamlined Environmental Authorisation process. These approaches are being discussed with various SEA Project Team members, Authorities and key Stakeholders, and only one of these approaches may be recommended and put forward at the end of this SEA Process. In the first option, complete exemption from the Environmental Authorisation process can only be achieved if there is compliance with prescribed Norms or Standards. These will, as a fundamental minimum, request for a level of site verification and site Environmental Assessment to be conducted. The second option of streamlining the Environmental Authorisation process could be achieved through the adherence to Minimum Information Requirements, which will revert to the 2014 EIA Regul+A1ations (as amended), with additional detail in terms of providing a clear and structured process for environmental monitoring, assessment and decision-making related to gas pipeline development." This Department supports the option of a shortened EIA (Basic Assessment) process, similar to the shortened process for renewable energy application that fall within the REDZ corridor.

General comment	The gas pipeline corridors are 100km wide and just in the George area alone, a 100km corridor includes a diverse range of different ecosystems and receiving environments from the coast, coastal plateau, Outeniqua Mountains, Klein Karoo, Swartberg Mountains and part of the Central Karoo. The distinct linkages between these ecosystems in terms of its functionalities (rivers, ecological corridors, habitat distribution, etc.), the cumulative impacts on the different biomes/habitats, broad scale ecological processes and biodiversity loss, must be quantified at the SEA level through the integration of the assessment findings. It is extremely difficult to provide meaningful comment at this level, knowing that no assessments will be done at a site-specific level and that the SEA findings will serve as the main informant over a 100km corridor stretch. This Department This Department **does not support** the intention that no further assessments will be done at a site-specific level.
General comment	Since the final alignment of the potential gas pipeline remains unknown, it is not possible to comment on this alignment before or when the SEA and Standards are gazetted. This eliminates the opportunity that potential interested and affected parties should have to participate and comment on the final route alignment. As there will be no Environmental Authorisation (EA) required, the responsibility to find the best practicable environmental option is given to the developer. This also removes the right to appeal since there will be no EA. Again it is reiterated that a fast-tracked EIA process (with concurrent water use, land use planning and mining use approvals) be undertaken to ensure that the general objectives of integrated environmental management are achieved.

Page 3

STAKEHOLDER REVIEW: Part 2 - Identification of Gas Pipeline Corridors

Page Range	Line/s	Table/Fig/Box/Map	Reviewer Comment
7	113 - 125	N/A	Whilst the opportunity exists to develop local mills for the fabrication of 3500km of pipeline and to ensure that these mills reach international standards, it is most likely that all the work and equipment will be sourced from overseas. It is noted that the marketing exercise will not form part of the SEA, but the concern remains that the pipeline and associated infrastructure will largely be funded by tax payers. It is thus imperative that public consultation form part of the marketing exercise.
8	3 - 4	N/A	The development of access roads of 8 – 10 m in width may trigger listed activities (e.g. Activity 4 of Listing Notice 3). It is essential that all applicable listed activities are considered and authorised.
8	102 - 103	N/A	The establishment of borrow pits would require authorisation from the Department of Minerals and Energy.
10	53 - 65	N/A	Whilst climate change was a consideration in the SEA and associated specialist studies, the potential impacts of extreme weather events on infrastructure were not specifically addressed, other than mentioning areas becoming hotter, wetter or dryer. The Western Cape has seen an increase in the number of extreme weather events / natural disasters that are exacerbated by climate change. These events include fires, floods, increased storm events (including stronger rain and winds) and severe drought. The Western Corridor (West Coast of the Western Cape) and the Southern Coastal Corridor are already experiencing the impacts of extreme weather events. By including climate change projections into infrastructure planning, inappropriate development or the incorrect placement of infrastructure can be avoided.
10 - 11	Section 2.3.3.3	N/A	It is noted that Greenhouse Gas (GHG) Emissions can only be finalised at a project-specific level, once a specific transmission gas pipeline route has been determined and a detailed design analysis undertaken. This Department therefore believes that the SEA should result in a shortened EIA process (similar to the REDZ process). There is no indication of monitoring of potential gas emissions along the pipeline. Although LNG is less polluting than coal as an energy source, it can potentially add to GHG emissions if there are undetected leaks along the transport and distribution network. Are there any recommendations concerning monitoring via sensors, which could be considered as a gas emission sensors network?
22	17	Table 5	Atlantis was designated as a Special Economic Zone in June 2018. It should be excluded from the Table of proposed SEZ's.
General comment			The proposed development will generate a range of atmospheric emissions, wastewater discharges and solid and semi-liquid wastes. Most of the solid and steam liquid will require disposal offsite. It is important to determine whether the existing infrastructure and services available in the region has capacity to handle the increased levels of solid and semi-liquid waste anticipated from the project. It is therefore the opinion of Directorate that this must be assessed and the information obtained prior to any implementation commencing.

Page 4

STAKEHOLDER REVIEW: Integrated Biodiversity and Ecological (Terrestrial and Aquatic Ecosystems, and Species Assessment Report)

Page Range	Line/s	Table/Fig/Box/Map	Reviewer Comment
1	3	N/A	Page 1 of all the specialist studies refer to "*Draft v3 Specialist Assessment Report for Stakeholder Review*". The dates of the specialist assessment reports should be provided.
16	2- 6	N/A	What is referred to by gas pipeline infrastructure (does it include piping, pumping units, concrete and steel supports, culverts, etc.)? - Details must be provided regarding the power requirements for these pipelines (electrical or generators). - Also differentiate between a substation and a transformer? What are the maintenance frequencies of these units and what is the pollution risk during maintenance, especially coolant, PCBs in transformer oils, etc? - Should the location of the substations or transformer units not consider the potential risks of groundwater pollution?
17	2 - 8	N/A	Some type of monitoring and maintenance will have to be done to ensure that the disturbed areas are successfully restored. Possible harvesting of seed may need to be done prior to the removal of topsoil to improve the chances of success during re-establishment of indigenous vegetation.
18	14 - 15	N/A	"*No fieldwork was done and no additional raw data were collected and/or processed*." The need for additional information through a shortened EIA process becomes apparent again as the biodiversity in some areas may have changed when pipeline construction commence.
79	2 - 4	N/A	For a short- to medium-term project like the supply pipeline from Saldanha to Ankerlig (Atlantis), a permanent pipeline structure is needed. What would happen to this pipeline once the gas has been depleted? Would the decommissioning result in the removal of the subterranean infrastructure? What are the implications of leaving the pipeline underground after it is no longer being used? What are the legal responsibilities of the pipeline owners?
145	Section 6.1.1	N/A	This section refers to the physical disturbance to soils, fauna and flora. The need for access roads is understandable; however, it raises various concerns. These access roads generally have gravel surfaces and often are not developed on a hard under-surface. The gravel sections may create additional run-off channels for storm water and may have erosion impacts that could lead to the loss of soil and potentially the loss of indigenous vegetation. What are the mitigation measures to prevent or address this impact?
145	13 - 14	N/A	Weld failures could result in gas escaping through gas leaks and airborne plumes could be dangerous when accidentally ignited. Would these impacts be addressed in the Environmental Management Programme (EMPr)?
147	15 - 21	N/A	Pipelines for the transmission of gas require a high level of maintenance and safety. The pipelines must be required to have a maintenance plan with a proper maintenance budget, including the cost of responding to emergency incidents. State Departments and organs of State have a poor record of infrastructure maintenance. Pipeline operators and owners must be held accountable to comply with these maintenance plans and emergency leaks or incidents must be reported in terms of the required legal protocols. These requirements must be clearly stipulated in the EMPr or Norms/Standards/Protocols.
154	6 - 8	N/A	Pigging stations and similar infrastructure have a risk of vandalism or theft of components. This increases the risk of explosions or the release of potential dangerous plumes into the atmosphere. Is there a specific security plan being developed to address this concern?

163	1	Box 27	Gas transmission pipelines may negatively impact efforts to conserve forests and farmland that play an essential role (on a landscape scale) in filtering rainwater that is ultimately used as a source of drinking water. The importance of avoidance in these sensitive ecosystems are supported.
General comment			The developer will decide on a route for the pipeline within the 100km wide corridor and apply the Norms/Standards/Protocols (which would detail management actions regarding sensitive features or species). There will be no public participation for the determination of the final alignment of the pipeline or powerline within the proposed 100km wide corridor. As such and in terms of consultation, there will only be land negotiations between the developer and the landowner. It is reiterated that a strategic environmental assessment does not provide the level of detail required to avoid, minimise and mitigate potential negative impacts. High-level strategic assessments are encouraged, specifically with regards to cumulative impacts, but it cannot and should not replace site-specific environmental impact assessments. The cumulative ecological impacts have been rated as low in terms of risks, and moderate in terms of consequence (with mitigation), but represents the impacts at strategic level/scale.
General comment			It is evident from the SEA that the mitigation hierarchy could not be applied at this level of assessment and that all risks and impacts associated or applicable to all six gas pipeline corridors must be subjected to an impact assessment process (EIA) to enable the relevant competent authority to decide that the proposal will not have an unacceptable negative impact on specifically species of conservation concern populations, both locally and regionally. The appropriate measure to mitigate these impacts can only be determined at an EIA level through the application of the mitigation hierarchy. However, it is understood from the authority consultation workshop and responses to concerns raised that the appropriate pipeline routes/alignments will only be determined by means of consultation between the developer and landowner, which defeats the purpose and application of the mitigation hierarchy.
General comment			Since the final alignment of the potential gas pipeline remains unknown, it is not possible to comment on this alignment before or when the SEA and Standards are gazetted. This eliminates the opportunity that potential interested and affected parties should have to participate and comment on the final route alignment. As there will be no Environmental Authorisation (EA) required, the responsibility to find the best practicable environmental option is given to the developer. This also removes the right to appeal since there will be no EA. Again it is reiterated that a fast-tracked EIA process (with concurrent water use, land use planning and mining use approvals) be undertaken to ensure that the general objectives of integrated environmental management are achieved.
General comment			The transportation of gas and associated infrastructure may cause air pollution within certain parts of the corridor and also poses risks to underground sources of drinking water. These activities (pipeline projects) may threaten their safety and the property values of landowners. The landowners situated in close proximity to pipelines or a compressor station are faced with the persistent risk of accidents, spills or explosions. Will this be addressed in the EMPr or Norms/Standards/Protocols?

Page 5

STAKEHOLDER REVIEW: Biodiversity and Ecological Impacts: Terrestrial ecosystems and species - Fynbos Biome			
Page Range	**Line/s**	**Table/Fig/ Box/Map**	**Reviewer Comment**
1	3	N/A	"*Draft v3 Specialist Assessment Report for Stakeholder Review*". The date of the specialist assessment report should be provided.
12 - 13	Section 3.2	N/A	It is evident that there are numerous gaps in knowledge which cannot be addressed at the level of a strategic environmental assessment. It is therefore recommended that an assessment be done at a level where these gaps can be addressed (e.g. at an EIA level).
7	46	N/A	Correct grammar: "and the use of treatments to ~~simulate~~ **stimulate**"
8	12	N/A	Correct grammar: "These features make it ~~is~~ unlikely that the final…"
10	32 - 33	N/A	Correct grammar: "In some cases it is evident that ~~plant~~ threatened plant"
11	1	Table 1	Regarding the Western Cape Biodiversity Spatial Plan datasets: It is unclear what is meant with "*The handbook includes with definitions of all the categories and the land-use constraints*".
12	10 -11	N/A	Insert: "the most recent provincial 10 conservation planning **documents** supplemented with…"
12	18	N/A	Correct grammar: "~~special~~ **spatial** resolutions"
17	20 - 31	N/A	Correct grammar: line 20: "Albany ~~Ticket~~ **Thicket** Biomes" line 30: "~~sour-westerly~~ **south-westerly** winds" line 31: "when warm **air** drains from the interior prior to the passage of…"
18	5	Figure 1	Correct grammar: "The ecology of these major **vegetation** types differs as well."
19	31 - 52	N/A	Correct grammar: line 31: "treatments to ~~simulate~~ **stimulate**…" line 37: "an area with ~~more~~ higher and more reliable rainfall." lines 46 - 47: "... after a disturbance creates ~~and~~ **an** opening. These initial or pioneer species will then create ~~and~~ **an** environment which can be colonised..." line 52: "why Fynbos lacks a **typical** pioneer..."
25	16	N/A	The acronym "WCSBP" assuming "West Coast Spatial Biodiversity Plan" must be correct to read "WCBSP" (Western Cape Biodiversity Spatial Plan).
48	4	N/A	Correct grammar: "values such **as** threatened ecosystems or species"
48	13	N/A	Correct grammar: "through **which** the pipeline is being routed"
56	19	N/A	Correct grammar: "especially when traversing ~~across~~ steep slopes…"
64	18 - 19	N/A	Correct grammar: "… at a high, strategic level, the three key impacts ~~describes~~ **described** in section 5…"
64	23 - 24	N/A	Correct grammar: "this areas" to read as "these areas"
67	41 - 53	N/A	Where it is impossible to avoid very high or high sensitivity areas, Critical Biodiversity Areas and/or buffers, biodiversity offsets may be required. Further information pertaining to the strategic overview of how biodiversity offsets will be applied should be included in Section 7 (Best Practice Guidelines and Monitoring Requirements) of the specialist report.

Various	Various	Figures 5, 6, 7, 21 and various	The Phase 2 Corridor Area (Mossel Bay to Coega) contains numerous Critical Biodiversity Areas and Ecological Support Areas. It is also affected by the National Protected Areas Expansion Strategy (2010) and Protected Areas. Taking the sensitivity of the area and vegetation type into account, the significance of the impacts at a site-specific level will remain unknown, which represents a fatal flaw in the assessment approach. It is important to note that should the Norms/Standards/Protocols be applied, the impacts and significance thereof must be known, beforehand.	

Page 6

STAKEHOLDER REVIEW: Biodiversity and Ecological Impacts: Terrestrial ecosystems and species - Succulent and Nama Karoo Biomes			
Page Range	**Line/s**	**Table/Fig/Box/Map**	**Reviewer Comment**
1	3	N/A	"*Draft v3 Specialist Assessment Report for Stakeholder Review*". The date of the specialist assessment report should be provided.
11	2- 19	N/A	The gas pipeline corridors are 100km wide and just in the George area alone, a 100km corridor includes a diverse range of different ecosystems and receiving environments from the coast, coastal plateau, Outeniqua Mountains, Klein Karoo, Swartberg Mountains and part of the Central Karoo. The distinct linkages between these ecosystems in terms of its functionalities (rivers, ecological corridors, habitat distribution, etc.), the cumulative impacts on the different biomes/habitats, broad scale ecological processes and biodiversity loss, must be quantified at the SEA level through the integration of the assessment findings. It is extremely difficult to provide meaningful comment at this level, knowing that no assessments will be done at a site-specific level and that the SEA findings will serve as the main informant over a 100km corridor stretch. This Department does not support the intention that no further assessments will be done at a site-specific level. The specialist highlighted that one of the shortcomings of the report is that no field assessment was undertaken. The heterogeneity or state of diversity is also pointed out as being inappropriate for fine-scale analysis and interpretation such as provisional routes. The report also submits that the threat status of most invertebrate groups was not assessed according to the IUCN criteria. A further limitation was that some datasets are outdated, or lacking data for certain areas of ecological importance within each biome. These shortcomings confirms that the information presented in the report is based on assumptions at a strategic scale/level and lacks site-specific detail. The key impacts according to the report will mainly be removal of vegetation and disturbance of soils within the pipeline servitude, damage to sensitive ecosystems, displacement of fauna and habitat destruction/fragmentation and impacts associated with maintenance activities and continued habitat loss.
18 - 19	Section 4.2.4.2	N/A	Although not a focus of this biodiversity study, section 4.2.4.2 does refer to mining and impacts that have a socio -economic value; however, the overall economic benefits of the gas pipeline SEA must be carefully evaluated. Part 2 (Project Description) indicated that the skills and pipeline material will be sourced from foreign countries, thus creating limited employment opportunities for local communities in the process. Is it not possible to manufacture these pipes locally? With the SEA still to be completed, there is sufficient time to train local people to manufacture pipes in welding and installation as per the specified requirements.
25	29	N/A	High maximum daily temperature in the Desert Biome can exceed 48°C. - What is the typical temperature of gas in the pipeline, and how will temperature fluctuations affect expansion and contraction of the piping system? - What is the risk of explosive damage to the pipeline? - What is the normal life expectancy of the steel pipeline and are there any maintenance requirements, that may require excavation?
48 - 49	1	Table 7	The proposed management actions relating to planning and construction leaves too much uncertainty as to the effectiveness of the measures proposed to avoid and minimise the identified potential impacts. The SEA does not allow for mitigation at this scale and the need to assess impacts at ground or site-specific level becomes necessary to confidently state that the impacts will be insignificant and appropriately mitigated. The management actions proposed by the specialist confirms that mitigation heavily depends on ground assessments and pre-construction walk-through.

55	6	Table 9	It is evident from the Impacts and Risk Assessment Table (Table 9) that the impacts and risks associated with the removal of vegetation (including impacts on plants of species and conservation concern) and habitat loss are as rated high negative. These constitute direct impacts that will result from vegetation removal/clearance activities and habitat loss for the establishment of development infrastructure. It is however submitted that the aforementioned impacts represent impacts at a strategic level/scale. As such, the impact significance at a site-specific level/scale may potentially be rated high to very high, with a consequence level of severe to extreme. DEAs intention is to gazette the corridors and then later (separately) gazette standards for the gazetted corridors. Once the corridors and Norms/Standards/Protocols are gazetted, there will be no requirement for an EIA before a developer constructs a gas pipeline. The significance of the impact at EIA or site-specific level will remain unknown, which represents a fatal flaw in the assessment approach. It is important to note that should the Norms/Standards/Protocols be applied, the impacts and significance thereof must be known, beforehand.
General comment			Since the final alignment of the potential gas pipeline remains unknown, it is not possible to comment on this alignment before or when the SEA and Standards are gazetted. This eliminates the opportunity that potential interested and affected parties should have to participate and comment on the final route alignment. As there will be no Environmental Authorisation (EA) required, the responsibility to find the best practicable environmental option is given to the developer. This also removes the right to appeal since there will be no EA. Again it is reiterated that a fast-tracked EIA process (with concurrent water use, land use planning and mining use approvals) be undertaken to ensure that the general objectives of integrated environmental management are achieved.

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STAKEHOLDER REVIEW: Biodiversity and Ecological Impacts: Terrestrial ecosystems and species - Albany Thicket Biome			
Page Range	**Line/s**	**Table/Fig/Box/Map**	**Reviewer Comment**
1	3	N/A	"*Draft v3 Specialist Assessment Report for Stakeholder Review*". The date of the specialist assessment report should be provided.
6	34	N/A	Correct grammar: "it provide**s** resources to support…"
7	19	N/A	Correct grammar: "for this to hold across all gas **pipeline** phases…"
11	19	N/A	Correct grammar: "The findings **of** a brief field work exercise ~~is~~ **are** captured…"
15	13	N/A	Correct grammar: "it provides resource**s** to support…"
16	25	N/A	Correct grammar: "biodiversity classification for gas **pipeline** phases 1 and part of 2…"
21	7	N/A	Correct grammar: "this gas **pipeline** phase falls within the Western Cape…"
22	9	N/A	Correct grammar: "as well as a number **of** critically endangered vegetation types.."
25	6	N/A	Change heading to read "Environmental suitability of gas **pipeline** corridors"
25	15	N/A	Correct grammar: "Percentage of total land area for each gas **pipeline** phase…"
31	7	Table 16	Correct grammar: "increase**d** risk of spread of alien invasive plants"
40	10	N/A	Correct grammar: "the National vegetation **map's** depiction…"
26	12	Figure 12 and Table 12	According the sensitivity maps, the Gas Pipeline Phase 1 is highly diverse with at least four distinct vegetation biomes forming a mosaic, with Albany Thicket mostly in river valleys. Gas Pipeline Phase 2 is rich in high value biodiversity areas as can be seen from the large number of Protected Areas and CBAs. Both Phases 1 and 2 dominate the percentage of sensitivity classes within the thicket biome, and also exceed that of Phase 7 and the inland phase. According to Table 12, all the gas pipeline phases that fall within the Albany Thicket Biome have relatively low suitability scores/ratings, with Gas Phase 1 the highest with 4.8 out of 10, Gas Phase 2 the lowest with 3.7 out of 10. None of the phases have a rating/score of greater than 5.5 which is considered good.
27	3	Table 13	The proposed management actions for the identified key impact (habitat destruction and degradation) also depend on ground assessments and verification before construction, which is not likely to occur, considering the approach that no EIA will be conducted for the pipeline alignment, but that Norms/Standards/Protocols will apply. Again, this is an alarming concern, as this approach can only be followed where the impacts are known.
30	1	Table 15	Habitat destruction/disturbance and the increased risks of spread of alien invasive plants have been rated severe consequences and high risk with mitigation. The consequence and risks at a site-specific level could potentially be rated higher, considering that these ratings are based/assigned at an SEA scale/level.

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STAKEHOLDER REVIEW: Biodiversity and Ecological Impacts: Aquatic ecosystems and species - Estuaries			
Page Range	**Line/s**	**Table/Fig/Box/Map**	**Reviewer Comment**
1	3	N/A	"*Draft v3 Specialist Assessment Report for Stakeholder Review*". The date of the specialist assessment report should be provided.
23	1 - 46	Table 3 on page 32	It is noted that the Palmiet, Breë, Duiwenhoks, Goukou and Gourits estuaries, which form part of Phase 1 Gas Pipeline corridor, are considered important, as it support sensitive estuarine habitats such as intertidal saltmarshes. The Duiwenhoks, Goukou and Gourits estuaries which are representative of the Phase 2 corridor are also considered important as they support sensitive estuarine habitats such as intertidal and supra-tidal saltmarsh. Its is evident from table 3 on page 32 that these estuaries are rated very high in terms of its sensitivity class.
33 - 35	Section 4.8	Figures 13 and 14	According to the sensitivity mapping information provided in the specialist study, all estuaries are regarded as systems of very high sensitivity based on 2 one or more of the listed criteria in Table 3. The relative sensitivity for Phase 1 gas pipeline varies from very high, high to medium and low. Coastal seeps, wetlands and rivers adjacent or just above the estuaries, within a 5 km buffer around the Estuary Functional Zone (EFZ), are deemed zones of high sensitivity as they directly influence the quality and quantity of freshwater and sediments entering estuaries. The coastal seeps, wetlands and rivers adjacent or above the estuaries, within the 5 to 15 km buffer around the EFZ, are zones of medium sensitivity as they indirectly influence the quality and quantity of freshwater and sediments entering estuaries. The potential impact on these in terms of direct estuarine vegetation loss, fragmentation of estuarine dynamics, and sedimentary processes and stormwater runoff causing enhance flows remain a big concern, especially if the impacts at a site specific-level are not assessed and mitigated accordingly. The major activities referred to in the specialist study (i.e. development of access roads to enable construction and ongoing maintenance) and resultant impacts can only be determined at an EIA level, once the final alignments of pipelines within the corridors have been established. Although the potential mitigation measures are noted in the specialist study, the potential mitigation measures proposed are however at an SEA level, which implies that these are done in a vacuum, as the site-specific identified impacts are not known at this scale/level, as it can only be determined or assessed at an EIA site-specific level to ensure that the mitigation measures proposed are appropriate for the level/scale at which the activity will be implemented.
53 - 54	Section 8.2	N/A	The impact of laying down a pipeline below an estuary may affect proper sediment movement and could result in erosion, or lead to shallowing of areas due to sediment build-up.

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STAKEHOLDER REVIEW: Biodiversity and Ecological Impacts: Aquatic ecosystems and species - Wetlands and rivers			
Page Range	**Line/s**	**Table/Fig/Box/Map**	**Reviewer Comment**
1	3	N/A	"*Draft v3 Specialist Assessment Report for Stakeholder Review*". The date of the specialist assessment report should be provided.
7	2	Table/Fig/Box/Map	The accronyms and abbreviations for National Departments should be amended to reflect name changes following the appointment of the new Cabinet. All National Departments and acronyms listed within this specialist study must reflect the current names of National Departments. Include the abbreviation for EIA in the list of acronyms and abbreviations.
8	10 - 42	N/A	Correct grammar: Line 10: "gas **pipeline** servitudes…" Line 12: "was commission**ed**…" Line 33: "dependent ~~of~~ **on** wetland and river systems…" Line 42: replace "metrices" with "matrices" Replace "defendable" with "defensible" throughout the specialist study
Throughout the study			Correct grammar and spelling.
100	2 - 31	N/A	The information states that species occurrence data is only based on known records, and does not account for the true distribution of species. The Department believes that a broad assessment like the SEA is not sufficient for the impacts associated with the magnitude of the proposed development. As previously stated, once the corridors and standards are gazetted, there will be no requirement for an EIA before a developer constructs a gas pipeline. The significance of the impact at EIA or site-specific level will remain unknown, which represents a fatal flaw in the assessment approach. It is important to note that should the Norms/Standards/Protocols be applied, the impacts and significance thereof must be known, beforehand. The lack of assessment of the cumulative impacts of the proposed development remains a huge concern. Although it is noted that biodiversity impacts associated with the proposed development are unavoidable, this Department believes that the impacts, if assessed at an appropriate level, can be mtigated or remedied. This includes mitigation measures taken to reduce the duration, intensity and/or extent of impacts that cannot be completely avoided. Effective minimisation can eliminate some negative impacts. This can only be achieved at a site-specific level.

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STAKEHOLDER REVIEW: Settlement Planning, Disaster Management and related Social Impacts Report			
Page Range	**Line/s**	**Table/Fig/Box/Map**	**Reviewer Comment**
1	3	N/A	"*Draft v3 Specialist Assessment Report for Stakeholder Review*". The date of the specialist assessment report should be provided.
General comment			This specialist study does not refer to climate change, although climate change resilience and adaptation are key objectives of Spatial Planning and Land Use Management Act and the Disaster Management Amendment Act, which are both referred to in this specialist study. As indicated in the comments to Part 2 (Project Description of this SEA), no large scale infrastructure planning and construction should be undertaken without fully understanding the climate change considerations and/ or impacts.

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STAKEHOLDER REVIEW: Additional Issues (Agriculture, Defence, Civil Aviation and Heritage)			
Page Range	**Line/s**	**Table/Fig/ Box/Map**	**Reviewer Comment**
10	33	N/A	Although Section 2.2.7 (Impact description and mitigation) indicates that if a gas servitude were to be implemented on a property containing crops, then the servitude agreement will specify the type of crops that can be grown within the servitude. Other types of agricultural activities should also be specified for activities within the servitude, as well as in the buffer area of the proposed gas pipeline corridor.

South African Heritage Resources Agency (SAHRA), 24 June 2019

Page 1

Gas Pipeline SEA

Our Ref: 13814

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CaseID: 13814

Date: Monday June 24, 2019
Page No: 1

Letter

In terms of Section of the National Heritage Resources Act (Act 25 of 1999)

Attention: Department of Environmental Affairs

Private Bag X447
Pretoria
0001
South Africa

In order to support the National Development Plan and Operation Phakisa, the Department of Environmental Affairs (DEA), Department of Energy (DoE) and Department of Public Enterprises (DPE), together with iGas, Eskom and Transnet, have commissioned a Strategic Environmental Assessment (SEA) Process to identify and pre-assess suitable gas routing corridors to facilitate a streamlined Environmental Assessment Process for the development of energy infrastructure related to gas, while ensuring the highest level of environmental protection. It is proposed that the final corridors be embedded and integrated into Provincial and Local planning mechanisms to secure long term energy planning. The Council for Scientific and Industrial Research (CSIR) was appointed in April 2017 to undertake the SEA Process, in collaboration with the South African National Biodiversity Institute (SANBI).

The CSIR has been appointed by the Department of Environmental Affairs (DEA) to undertake a Strategic Environmental Assessment (SEA) for the phased gas pipeline network in terms of section 24(2)b of the National Environmental Management Act (Act no. 107 of 1998) (NEMA). This SEA undertook scoping level assessments of a 100 km wide corridor and generated sensitivity and constraints maps using available data to identify preliminary power line corridors in the least environmentally sensitive areas. The SEA aims to streamline the Environmental Authorisation application processes when the final routes for the gas pipelines have been identified.

The gas pipeline network will consist of the construction of over 7 000 km's of underground pipelines constructed over 6 phases. The pipeline trenches will be 1-2 m wide in order to allow for a 660 mm in diameter pipe to be lowered into the trench. The construction right of way will be 30m wide including the topsoil dump and the final servitude that will be maintained will be 10 m wide. In 30 km intervals there will be block valves constructed, consisting of a concrete slab on the surface and a concrete valve chamber below ground as well. In 130 km a robotic PIGG station will be constructed above ground to allow for the servicing of the pipelines.

Page 2

Gas Pipeline SEA

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CaseID: 13814

Date: Monday June 24, 2019
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Additional construction includes construction camps, access roads will be 8 – 10m wide, and laydown areas within the construction right of way.

The identified heritage site buffer zones provided to CSIR in 2018 have been used in the SEA as part of the Environmental Constraints mapping. In addition, the SEA used data from the heritage scoping report undertaken as part of the 2016 EGI SEA to inform on the heritage section in chapter 3.7. Detailed comments on SEA report are provided in the prescribed commenting excel spreadsheet.

Comments

The SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit notes that this SEA states that a HIA will be required during the project implementation phase. However, as a tool to streamline the EA application process and to assist developers in identifying routes with the least sensitivity and risks of impact should include a preliminary large scoping study, particularly as the heritage sensitivity constraints for Phase 5 of the gas pipe line network have not been assessed or mapped in 2016 EGI SEA. It is also noted that portions of the gas pipeline phases 2/3, 3/2 and phase 6 did not form part of the 2016 EGI SEA as well.

Where there are no overlaps in the 2016 EGI SEA Heritage Scoping report and the current proposed gas pipeline network, specific heritage constraints maps must be developed and included in the section 3.7 of the SEA report.

Should you have any further queries, please contact the designated official using the case number quoted above in the case header.

Yours faithfully

Nokukhanya Khumalo
Heritage Officer
South African Heritage Resources Agency

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Gas Pipeline SEA

Our Ref: 13814

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Date: Monday June 24, 2019
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Phillip Hine
Acting Manager: Archaeology, Palaeontology and Meteorites Unit
South African Heritage Resources Agency

ADMIN:
Direct URL to case: http://www.sahra.org.za/node/523593

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STAKEHOLDER REVIEW: Part 1				
Stakeholder Reviewer Name	**Page Range**	**Line/ s**	**Table/Fig/Box/ Map**	**Reviewer Comment**
Nokukhanya Khumalo	**14**	**73**		Please explain why no heritage specialist study was undertaken as part of the Gas SEA.

STAKEHOLDER REVIEW: Part 2				
Stakeholder Reviewer Name	**Page Range**	**Line/ s**	**Table/Fig/Box/ Map**	**Reviewer Comment**
Nokukhanya Khumalo	17		table 1	Palaeontological Heritage: SAHRA has six sensitivity levels for palaeontology, the differences between the two sensitivity criterions must be explained in a footnote.
Natasha Higgitt	16 and 17		Table 1	Please explain why two different datasets were used for the mapping of Palaeontological resources i.e. Palaeontological substrate, CSIR 2013 and the Geology Layer 2014

STAKEHOLDER REVIEW: Part 3.6				
Stakeholder Reviewer Name	**Page Range**	**Line/ s**	**Table/Fig/Box/ Map**	**Reviewer Comment**
Nokukhanya Khumalo	**37**	**24**		Consideration must also be made about maintenance of traditional economic conditions and settlement structures when resettling people located in traditional villages.

Page 4

STAKEHOLDER REVIEW: Part 3.7/section 2.4 Heritage				
Stakeholder Reviewer Name	**Page Range**	**Line/s**	**Table/Fig/Box/Map**	**Reviewer Comment**
Natasha Higgitt	**17**		Table 7	Please note that World Heritage Sites are not managed by SAHRA but the Department of Environment, Forestry and Fisheries, except, when a National Heritage Site has been declared a WHS i.e. National Sites within the Cradle of Humankind WHS. Then both entities are responsible for the co-ordination of the management of these sites
Natasha Higgitt	**17**		Table 7	The SAHRA Palaeo Technical Reports are available on the SAHRIS website which should have informed the sensitivity analysis of the geological formations with regards to palaeo-sensitivity.
Nokukhanya Khumalo	**17**		Table 9	There is a new KZN Heritage Act it's the "KwaZulu-Natal Amafa and Research Institue Act, Act No. 05 of 2018
Nokukhanya Khumalo	**18**	**15**		There may be a gap in heritage data obtained from SAHRIS for the KZN province as recent site data and HIA are processed and held in Amafa databases.
Natasha Higgitt	**18**	**36-40**		While Heritage Western Cape (HWC), Eastern Cape Provincial Heritage Resources Authority (ECPHRA) and AMAFA KZN have been assessed as competant to perform functions in terms of section 8, 26, 27-30, 34-37, the remaining six provinces are not fully competant and therefore the responsibility lies with SAHRA. The Northern Cape, North West Province, Gauteng Province, Limpopo Province, Mpumalanga Province and the Free State Province Heritage Resources Authorities are only competant to provide permits for heritage resources as per section 34, or under section 27 (only for sites defined as structures as per section 34). For sites managed under section 27, if the site is defined as an archaeological or palaeontological site, or a meteorite (section 35) or as a burial ground and grave (section 36), these sites are managed and permitted by SAHRA.
Natasha Higgitt	**18**	**63**		There is also the 2012 Minimum Standards: Palaeontological Components of Heritage Impact Assessments
Natasha Higgitt	**18**	**71**		It is important to note that SAHRA is updating the current 2007 Minimum Standards and the requirements of the HIA may change.
Natasha Higgitt	**18**	**77-78**		It must be noted that the impacts of the Electrical Grid and the Gas Network are very different and this must be highlighted in the report. Also, it must be noted that the areas assessed for the EGI SEA differ from the areas assessed as part of the Gas SEA.
Natasha Higgitt	**18**	**116**		It must be noted that an HIA previously conducted within an area, may not have identified all heritage resources present. Over time, erosion may uncover subsurface heritage resources that were not present during the previous HIA, additionally, more burials may have occured in ana area etc. There is also an additional bias on the part of the specilaist that conducted the previous HIA. Some specialists are specialised in very specific fields and do not recoginise the singifiance of the various types of heritage resources (Please see Van Der Venter-Radford, 2017. Response to Discussion: Heritage vs Development. *SA Archaeological Bulletin* 72(205):91-95 for a discussion regarding this topic.)
Nokukhanya Khumalo	**19**		Table 10	It is not clear whether the palaeontological substrate sensitivity areas mention the various formations recognised in the Palaeo-technical reports found on SAHRIS. This needs to be clear. Furthermore, if the list provided for the palaeontological substrate is listing formations then please also align it to the sensitivity protocols that the SAHRIS Palaeosensitivity map provides for each formation ie Very High; High; Moderate; Low and Insignificant.
Natasha Higgitt	**19**		Table 10	Once again, WHS are not under the mandate of the NHRA, and are not always declared because of their heritage significance, but rather the natural features of the area or a combination of natural features and cultural.
Nokukhanya Khumalo	21	2	Map 6	The data source used for the map must be referenced. Also not all WHS sites are included in this map (The Barberton Mkonkjwa Mountains). The heritage sensitivity map has not been updated since the Phase 1 of this SEA.
Nokukhanya Khumalo	22	2 to 3		This sentence : "It should be noted that a HIA is required when it is anticipated that there will be impacts on significant heritage resources for a particular development proposal." must be amended to state that all EGI applications for 132kV power lines and power lines larger than 132kV will require a HIA and depending on the findings of the assessment, further monitoring of

				the ground clearance and pylon excavations (by a specialist) will be required. Smaller power lines will be assessed on a case by case bases.
Nokukhanya Khumalo	22	3 to 4		This sentence : "This differs from a heritage survey which identifies, records and grades heritage resources with no particular development proposal in mind." should be left out as it is confusing within the context of the report. Or rephrase the sentence to "This differs from a heritage survey which is conducted by the authority or for academic purposes to identify, record and assign significance to identified heritage resources.". Grading is a formal process undertaken by a Heritage Authority
Nokukhanya Khumalo	22	4		All HIA's must have a field based survey as per the requirement of section 38(3). A report named a Heritage Desktop Assessment/Heritage Scoping Assessment may or may not contain a field survey.
Natasha Higgitt	22	5		All development proposals that undertake a NEMA EA application process required that an assessment of the impacts to heritage resources is undertaken. See section 24(4)b(iii) of NEMA and section 38(8) of the NHRA.
Nokukhanya Khumalo	22		Table 11	High sensitivity: Areas of High sensitivity require a PIA inclusive of a field assessment. Permit requirements must also include section 36 and 34 of the NHRA depending on the heritage resources that require mitigation.
Natasha Higgitt	23		Table 11	Low sensitivity: An HIA will be required for these areas as not all HIAs previously conducted in areas have been accepted by the relevant Heritage Resources Authorities. If one compares that HIAs conducted to the comments provided by the relevant heritage authority, one can see that some reports were rejected due to the reports not complying with the legisaltion or Minimum Standards. Additionally, as stated previously, erosion can uncover previously unidentified heritage resources or additional burials could have occured within the area. One can only apply the need to not have an assessment undertaken for the palaeosensitivity.
Nokukhanya Khumalo	24	10 to 15		This sentence should be amended to say: "Where significant heritage resources are known to occur or have been identified in a HIA, the ECO will have to be trained by an archaeologist or palaeontologist, depending on the nature of the finds, to identify any subsurface heritage resources during construction. In addition to a monitoring programme by the relevant specialist, that may be recommended by the PHRA. This will prevent loss of highly significant palaeontological, archaeological and palaeoanthropological resources."
Nokukhanya Khumalo	24	29 to 31		All archaeological sites are visually sensitive as development changes the characteristics of the historical landscape in their surrounding. Therefore this statement must be changed.
Nokukhanya Khumalo	24	36		This sentence should be amended as follows: "Structures older than 60 years and not located in formal towns, like farmsteads and the trees surrounding the farm house, and the surrounding homesteads are an intergral part of the South Africa's colonial rural landscape. These historical landscapes will also require assessment and buffered.
Nokukhanya Khumalo	24	50		Preliminary consulation with the community regarding any heritage resource close and within the servitude must be carried and included in the HIA and not in the construction phase. Further consultation for the management of graves can be done after authorisation is granted in the construction phase.
Nokukhanya Khumalo	17 to 24			The sensitivity and pinch point analysis for heritage resources and scenic routes were not undertaken for the gas pipe line SEA as it was done for the EGI expansion SEA. It is understood that the 2016 EGI SEA Heritage Scoping report undertaken by Dr Jason Orton, Mr J van der Walt and CTS heritage was used for this SEA. But it is not reflected as such in this SEA. The results of that study must included here, particularly the sensitivity mapping. Where the corridors assessed in the 2016 EGI study do not overlap with the Gas pipe line SEA, a visual and heritage scoping study using similar methodologies as the 2016 EGI SEA Heritage Scoping report was supposed to have been undertaken, to inform the pinch point anaylsis. Where there are no overlaps in the 2016 EGI SEA Heritage Scoping report and the current proposed gas pipeline network, specific heritage constraints maps must be developed and included in the section 3.7 of the SEA report.
Nokukhanya Khumalo	17 to 24			It should be noted that an impact assessment for underwater cultural heritage will be required for any development related to the gas pipe line in harbours all along the coast of South Africa or any

				landing points below the high water mark.
Nokukhanya Khumalo	17 to 24			The palaeontological heritage should be expanded upon once the data from the palaeo-sensitivity map is available for use.

South Durban Environmental Community Alliance, 24 June 2019

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South Durban Community Environmental Alliance

CSIR - Environmental Management Services **24 June 2019**
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RE: Strategic Environmental Assessment for Phased Gas Pipeline Network in South Africa

Background

The SDCEA (South Durban Community Environmental Alliance) is an environmental justice organisation based in south Durban. It is made up of 19 affiliate organisations, and has been active since its formation in 1996. It is considered successful for many reasons. One of which is that it is a vocal and vigilant grouping in terms of lobbying, reporting and researching industrial incidents and accidents in this area. It contributes to the struggle against Environmental Racism for Environmental Justice and Environmental Health. The SDCEA hosts activities such as awareness campaigns, workshops, protests and meetings; to discuss any facets of environmental justice, including community health, unsustainable development, industrial pollution and disproportionate governmental representations.

Introduction

There are numerous concerns that we have raised at the meeting hosted by you on Thursday 13th June 2019 as the CSIR, Department of Environmental Affairs and Department of Minerals and Energy regarding the potential Phased Gas Pipeline Network in South Africa Strategic Environmental Assessment. We are finding important discrepancies below in the processes thus far

concerning these activities. We strongly object to the continuation of the Phased Gas Pipeline Network in South Africa.

Public Participation

The public participation for this whole process has been completely flawed from the inception of the project. The Department of Environmental Affairs and Department of Minerals and Energy and CSIR hosted only one meeting in Durban and presenters informed us at the meeting that this will be the open meeting as there was no response even though they advertised this in a few newspapers in KZN. We questioned the rational of expecting affected communities to attend this important meeting and travel from all over KZN. There are crucial areas in KZN that the CSIR has failed to contact and engage with in this process despite being asked to in their previous meeting in October 2018. Many areas have been excluded from the public participation process including Kosi Bay, Sodwana Bay, St Lucia, Hluluwe, Mtubatuba, Mtunzini, Stanger,Tongaat, Shakas Kraal, La Mercy, Umdloti, Verulam, Umhlanga, Central Durban, Bluff, Merebank, Isipingo, Amanzimtoti, surrounding townships like Chatsworth, Inanda, Umlazi, Phoenix, KwaMakhuta, Illovu, Port Shepstone , Richardsbay , Park Rynie, Ubumbulu, Wenworth ,Jacobs, Umkomaas, Ifafa Beach Scottsburgh, Margate, Mtwalume and Port Edward. All these areas will be directly and indirectly affected if gas pipelines are put installed on roads, open spaces , school grounds , recreation and alongside homes , food gardens, water pipes and wetland areas etc . There was also no advertising or participation in the rural communities and all along the coast of KwaZulu-Natal which is social exclusion and discriminatory.

Translation of documents

The CSIR together with the Department of Environmental Affairs has agreed to translate the documents into IsiZulu and make the comments period 30 days from the time of publish. IsiZulu SEA's need to be entirely accessible to the public, therefore hard copies will have to be distributed. Many community members do not have access to the internet therefore they cannot download the SEA's off the internet to make meaningful comment as data costs money which rural communities do not have given the current economic situation prevalent in the country at the moment . It is the

responsibility of the paid independent consultants to ensure that all communities have access to the SEA's.

Terms of Reference

The terms of reference for the appointment of the specialists and CSIR need to be made available to the public. It is crucial for us to know if these specialists and consultants are people of repute and credibility. We need to understand what process was in place in procurement to appoint these experts and consultants. How was this advertised! How many groups tendered for this project and short listed as communities are concerned with biasness and unfairness when no one follows due process and desk top studies are given as facts?

Role of Departments

We want a clear and definite response about the roles of the Department of Environmental Affairs and the Department of Minerals and Energy .The DEA is the guardians of the environment; and how will they approve the decision and consent on these gas network development if they are now wanting to be referee and player in this process which is a conflict of interest and it undermines their constitutional mandate and their responsibility. The Planning department was conspicuous by their absence and yet they should have been present in the public information meeting as well as the eThekwini Municipality who has massive role in announcing what development takes place in our country. At the public information meeting, most of the local officials who were present left after an hour indicating that this process was fait accompli or a pie in the sky. Why spend so much of money if this is the case.

The Public Information Meeting

The process of the public information meeting is flawed. For an important meeting such as this the time was insufficient, for presentation and comments. Presentations by the consultants were rushed through and many important slides on the presentation were over looked as not important, yet they should not be in the presentation if this was not a part of the SEA. Clearly the rush was to get the presentation over and done with in a short period of time. .

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Research

The research done by the CSIR was inadequate. We will not accept desktop studies. CSIR needs to go to the communities and conduct actual research. We want to see evidence that this development will actually create jobs. Areas generally targeted for developments and pipelines are generally black, low income areas which are absolutely discriminate, therefore this SEA needs to be specific in terms of the actual areas it is targeting.

Climate Change

The most obvious indication of the lack of concern about climate in this document is this comment: "The principal determinants of energy demand growth are numerous and complex and include: energy policies, rates at which economic activity and population grow, relative energy source prices (and technological developments which impact on the relative costs of exploration, production and distribution) and technology innovations which can have a downward impact on energy prices - amongst other impacts." **Neither the methane contribution to climate change nor the impact of gas reinjection on oil extraction - a source of future CO2 emissions - is mentioned, as a determinant of energy demand.** For the national scientific body to simply ignore climate catastrophe when contemplating factors affecting energy demand growth, is mind-boggling.

When much later it arises in a few short paragraphs, the analysis of the impact of gas emissions - especially methane, more than twenty times worse a short-term contributor to climate change than CO2 - is simply non-existent. Such minimisation of the problem is not surprising, for the CSIR has been challenged by SDCEA before about denying aspects of climate change, when working on Transnet's 2012-15 expansion of the Durban harbour. At the time, CSIR consultants simply refused to factor in realistic assessments of damage done by port-petrochemical complex expansion to GreenHouseGas (GHG) emissions, as well as damage in the form of rising sea levels and extreme weather events, to Transnet's proposed new infrastructure. In spite of widespread condemnation of Transnet's Environmental Impact Assessment, especially the CSIR

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consultants' role, these 'scientists' are yet again refusing to face up to the massive problems in this mega-project in terms of climate change.
The clients for this current CSIR work still include those parts of the state that have never considered the climate emergency as worthy of consideration in mega-project design, including the Department of Energy, Department of Public Enterprises, iGas, Eskom and Transnet. To carry out work for these clients, it is apparent that CSIR is once again playing down the climate catastrophe, in what is an obvious conflict of interest.

The only mitigating factors that the CSIR turns to, are the carbon tax of US$0.42 that was enacted after persistent delays on 1 June 2019, and the December 2015 Paris Climate Agreement promise by the South African government, that "emissions will peak between 2020 and 2025, plateau for approximately a decade, and then decline." Not mentioned are, first, that Sweden's carbon tax is much closer to what a genuine effort at pricing carbon should be: US$180.00/ton. South Africa's carbon tax is laughably miniscule in comparison, especially given the role of the project's three main users - Sasol, Eskom and Transnet - in raising the country's GHG emissions to such exceptionally high levels. Second, the SA commitment was exactly the same in 2015 that it was back in 2009, and is now considered utterly inadequate and irresponsible. South Africa has an obligation to move much further and faster, particularly in view of the 2016-18 Cape Town drought, the ongoing droughts in the Free State and other parts of South Africa, the Durban Rain Bomb (168 mm in 24 hours) that killed more than 70 people on 22-24 April, and the two cyclones in March-April that killed well over 1000 of our neighbours in Mozambique, Zimbabwe and Malawi.
A genuine analysis of emissions is vital; the failure to include any information at all about the methane emissions (including leakage from anticipated fracking sites - which make power generation from gas far more damaging than coal-fired power in the United States) must be rectified. The climate damage and local air, water and land pollution damage implied in the March 2019 IRP's use of coal and gas are nowhere quantified in that document, and along with coal exports and other high-carbon aspects of the South African economy, will ruin even the chances of the inadequate Paris commitments' realisation. Whether 1000MW or 2000MW or

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even more, that IRP dangerously makes promises of increased energy generation from gas: "*the Brulpadda gas resource discovery in the Outeniqua Basin of South Africa, piped natural gas from Mozambique (Rovuma Basin), indigenous gas like coal-bed methane and ultimately shale gas, could form a central part of our strategy for regional economic integration*" - without an assessment of methane's contribution to the climate catastrophe now unfolding. In other words, the CSIR's reliance upon the IRP to justify a rationale for a dramatic increase in gas burning to generate electricity, compounds the failure to properly consider methane emissions.

In addition to failing to contemplate the GHG emissions associated with the pipeline's transfer of gas to generators, the SEA document also neglects the very basic responsibility of environmental scientists to engage in natural capital accounting, regarding the gas that will be drawn from within South African national boundaries, *and then no longer be available for any future use.* That accounting task was one that the late Environment Minister Edna Molewa committed to in May 2012, within the Gaborone Declaration for Sustainable Development in Africa: http://www.gaboronedeclaration.com/about-the-gdsa-1.

The Declaration was "driven by a concern for the historical pattern of natural resource exploitation that has failed to promote sustainable growth, secure environmental integrity and improve social capital in Africa." The Declaration's Action Statement 1 commits South Africa to "Integrating the value of natural capital into national accounting and corporate planning and reporting processes, policies and programmes." Yet the CSIR has completely ignored this step in the process of evaluating whether extraction, piping and burning of gas is appropriate, in even self-interested economic terms.

Extraction of gas through fracking, especially in the Karoo, has been unveiled as a myth, and hence the United States government claims that South Africa's gas reserves are fourth highest on earth are not to be believed. According to de Kock et al in the *South African Journal of Science* (online at https://www.sajs.co.za/article/view/4125), "the first report of direct measurements of the actual gas contents of southern Karoo basin shales" reveals the "carbon content of shales to

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be dominated by over mature organic matter. The results demonstrate a much reduced potential shale gas resource presented by the Whitehill Formation."

Accidents, explosions, gas leaks and disaster management plans

Once a pipeline is built, the landowners along the path of the pipeline, or next door to a compressor station will have no choice but to accept living with the constant risk of accidents, and explosions. Several large pipeline failures in the past few years, leading to massive damage and even loss of life, have highlighted this risk. Pipelines can break open and leak. When this happens, the liquid or gas which leaks out can explode and cause fires. Or it could poison water, crops, land and air. When a person is near a leak from a pipeline, he or she may feel tiredness, dizziness, headaches, nausea and/or vomiting and difficult breathing. A person may lose consciousness, and could even die. Gas from leaking pipelines may over a long time even cause diseases like cancer and leukaemia (*please annexure 1 for health study*). On December 24, 2001, a methane rich pipeline exploded in Tongaat, South Africa. A nearby school was almost destroyed, and homes were affected (*Please annexure 2 for list of incidents*). We demand that a proper health study be conducted, there also needs to be a risk assessment done and a proper and adequate disaster management plan which must include a contingency plan.

Social Enhancement Studies

This overestimation is reminiscent of the megaproject cost-benefit miscalculations within the country's main pipeline investment to date: R27 billion for the doubling of the Durban-Johannesburg MultiProducts Pipeline in the 2006-18 period, which was originally slated to cost just R6 billion. According to then-Minister of Public Enterprises Minister Malusi Gigaba, in December 2012, "Transnet Capital Projects lacked sufficient capacity and depth of experience for the client overview of a megaproject of this complexity. There was an inadequate analysis of risks... Transnet's obligations on the project such as securing authorisations – Environmental Impact Assessments, land acquisition for right of way, water and wetland permits – were not

pursued with sufficient foresight and vigour." This new SEA for what will in part be another Transnet gas pipeline reflects the same carelessness.

Even though it is said, that Operation Phakisa will create jobs, what about the jobs and livelihoods it could destroy. The corridors of this gas pipeline are yet to be determined however it could infringe on peoples land for farming, as well contaminate water resources; it could destroy the tourism jobs if it is put near tourist areas. Also the value of properties could decrease if put near people's homes which have been done in the past. Therefore we need a social enhancement study needs to be done assess how this development will affect the economies of small businesses, including farmers, and property value.

Conclusion

Gas pipelines are not the energy infrastructure that South Africa needs if it wants to build a clean energy future. Gas pipelines will simply add to climate change and commit the country to several more decades of destructive dependence on the oil and gas industry. The concept that natural gas offers a bridge to a low-carbon future is false. If South Africa wants to incorporate a Just Transition, then we need to move away completely from fossil fuels, because according to The International Panel on Climate Change, "*there is only a dozen years for global warming to be kept to a maximum of 1.5C, beyond which even half a degree will significantly worsen the risks of drought, floods, extreme heat and poverty for hundreds of millions of people* (2018). The recommendation is that there must be a transition to renewable energy which South Africa has a vast potential for.

Finally, SDCEA is at the coal-face of the largest oil refinery complex in Africa. We have witnessed countless explosions, leaks and other pipeline accidents. For the sake of local air, water and land quality, and for future generations whose lives are threatened by the climate emergency, the authors of the SEA owe South Africa far higher levels of consciousness about the risks of massive gas piping infrastructure in this, the most unequal society on earth.

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Thank you
Regards

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Chemical pollution incidents in South Durban

Date of Articles	*Article title*	*Incident*
	Pollution of our ocean must stop	Two Durban pipes have combined capacity of 200 000m3 of industrial and domestic effluent being pumped to the sea every day. This is all between Durban and Umkomaas.
	Toxic spill serious threat to Kruger tourism	The spillage of contaminated water into Olifants River in the Kruger National Park from a neighbouring fertilizer producer put a damper on tourism at SA's biggest wildlife attraction.
2011/ 03/ 24	Provinces polluted rivers pose health risk for the water users	Environmental rights groups have expressed concern about the state of the country's rivers following a report made to parliament microbiological tests proved KZN's river systems were badly affected by pollution. People affected by the high presence of E-coli.
2011/ 06/ 08	Bluff and island in sea of pollution	Air pollution wreaked havoc on health of Bluff residents. Symptoms such as shortness of breath, dizziness, burning eyes and throats as well as nosebleeds have been experienced by residents. Excessive spraying of dangerous chemicals from the tank washout facilities below Marlborough Park often drift across the Bluff. Petrol and chemicals often find their way into storm water drains and the fumes are overwhelming.

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2011/ 10/ 24	Dumped ash is toxic reveals analysis	Results of analysis of ash that has been dumped on cane fields, a sand company's site and on farm roads reveals worrying levels of toxic heavy metals such as Cadmium, Manganese and Lead.
2011/ 11/ 16	Petrol leak time bomb Durban fuel rupture unreported for months	It took the Department of Environmental Affairs and the eThekwini Municipality seven months to be told about the potentially hazardous underground fuel leak at a petrol station in KwaMashu. People have been exposed to toxic fumes and were unaware of the danger of fire and contaminated water.
2011/03/ 02	Richards Bay residents waken by foul gas	Richards bay residents were gassed with sulphurous emissions from Mondi Paper Mill. The residents experienced headaches and nausea. Mondi acknowledged that an excess of sulphides had been released after midnight.
2012/ 02/ 20	Toxic spill firm faces lawsuit	The Department of Water Affairs would take legal action against the firm responsible for a cyanide spill in the Ngagane river near Newcastle in KZN last week.
2012/ 09/ 04	Bluff residents furious over spill Demand for meeting with polluter	Bluff residents are demanding a meeting with the company that has admitted to being the source of an oil spill that leaked into the harbour. It also emerged that the same company Fuel Firing System (FFS) was also responsible for the cat-urine like smell that plagued south Durban residents.

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2012/ 10/ 02	Fumes cause outrage on Bluff	Bluff residents were upset by the fact that they were not informed about the petroleum product leak at Island View or told what was being done to rectify the situation.
2012/ 10/ 05	Fuel leaks into port	A fuel leak was discovered at the end of Island View Road and the liquid could be heard flowing in the nearby storm water drain and the entrances to the harbour were blocked, as the flow continued towards the harbour.
2012/ 10/ 16	Mopping up over – after a decade	Residents of Wentworth noticed a noxious smell in their neighbourhood 11 years ago. It was seeping into their homes from a storm water drain and more than one million litres of petrol had leaked underneath several homes from a rusty underground pipeline owned by Sapref petrol refinery.
2012/ 11/ 01	N2 closed for hours after diesel spill	The N2 freeway (near King Shaka International Airport) was closed for four hours after a truck was involved in a crash and about 400l of diesel spilt onto the road. **Two** people were seriously **injured** due to this incident.
2012/ 11/ 15	Row over harbour chemical spill	The eThekwini municipality and Transnet have come under fire for poor communication to the public regarding a large spill of petroleum chemicals at the Island View chemical storage area in Durban Harbour.

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2012/ 11/ 20	Petrol leak raises alarm	South Durban residents and local environmental organisation are calling for an inquiry into the hydrocarbon leak at the Cutler's Complex.
2012/ 11/ 30	Fuel tanker slick mopped up	A tanker carrying heavy fuel oil (HFO) spilled its cargo on Basil February Road, causing damage to other vehicles.
2013/ 04/ 15	Mooi River hit by disastrous fuel spill	300 000 litres of refined fuel flooded a dairy farm in Mooi River. The spill was described as a catastrophe and Transnet has been accused of being the culprit. Transnet refused to confirm how much fuel was lost, but a sources revealed estimates were placed at over 300 000 litres.
2013/ 04/ 27	Man burnt in harbour gas leak	**One** person sustained **burn injuries** whilst **13** others were treated for **ammonia inhalation** after a gas leak in at the Durban harbour. The leak was detected at the Fresh Produce Terminal and was caused by a faulty valve.
2013/ 06/ 28	Bright blue mystery	The canal in Alan Paton Road in Durban turned blue after an unknown substance was dumped into it. The canal is in an industrial area and it flows into the Durban harbour.
2013/ 07/ 10	Fuelled into action	Petrol attendants clean up a fuel spill at Caltex in The Bluff after a motorist drove away with the nozzle still attached to his car.

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2013/ 07/ 19	Thousands stuck after fuel spill	Diesel fuel spill on the N2 near Amanzimtoti. The rain caused the oil to spread across the road causing **several people** to be involved in an **accident** sending them to the **hospital**. The spill was over two lanes
2013/ 08/ 20	Tanker spill on Quality Street	A tanker spill from a chemicals company In Jacobs (corner of Quality Street and Balfour Road) left the roadway soaked in an acid like substance. No concrete response was given as to what the chemical was.
2014/ 04/ 16	Oil spill sullies port's reputation	The Richard's bay port's proud reputation for efficient operations was sullied when a pipe ruptured at the Engen storage facility next to a coal terminal spilling thousands of litres of oil in the bay.
2014/ 12/ 03	Canal oil spill cleaned up in quick time	There was an oil spill in the Port of Durban at the Bluff Silt Canal during the weekend; however the spill was cleaned up. There were reports of dead fish and oil on fishing boats and ropes.
2014/ 12/ 05	Spill angers yachts	Many fish were killed, boats damaged and water quality compromised in the Durban Harbour due to an upstream oil spill on the 30th of November. About 4000 litres of oil flowed downstream from the Amanzimnyama canal. The source of the spill is unknown but an ineffective weir allowed the oil to flow unabated.
2014/ 12/ 05	**Spill angers yachts**	4000 litres oil has spilled and downstream and killed scores of fish and messed

Page 6

		yachts and boats. The spill from amanzamnyama although the source is unknown the matter was reported to the ports authority (TNPA)
2014/ 12/ 24	Diesel flood at posh estate	A ruptured diesel pipeline spouted 200 000 litres of toxic fuel onto a Hillcrest estate prompting a full scale evacuation just before Christmas. Four homes and an adjacent farm was flooded with surges of knee-deep diesel running downhill.
2016 05/ 27	Driver seriously burnt when oil truck burst into flames	An oil tanker and a heavy goods tuck collided on the N3 Durban bound, causing the oil truck to go up in flames. **One** of the drivers was **seriously burnt** whilst the other escaped uninjured.
2016/ 04/ 30	Up in smoke	**Three** people were **injured** and taken to hospital after a fire broke out in a building in Bacus Road in Clairwood. The building was a factory used to manufacture school uniforms.
2016/ 05/ 20	Truck passenger dies in acid spill crash	The truck had lost its load on the M7 at the Umbilo Road off ramp spilling its load of hydrochloric acid causing the **death** of **one** person and leaving another injured and having to use **advanced life support**.
2017/ 02/ 21	Family mourns gas death	**Six** people were **killed** when methane gas was leaked from a pit at the Durban naval base.

Page 7

2017/ 03/ 31	Towering inferno Bluff residents look to the future as ash settles on 204, 000m2 Bayhead warehouse fire	As the dust settles on the fire that raged through a Bayhead-based warehouse for three days, communities are turning their attention to how the fire broke out, how it spread so quickly and how safe their homes are in the event of another blaze at a more toxic facility.
2019/ 03/ 14	Major blackout follows substation explosion	An explosion of a 275 kilovolt substation in Klaarwater, south of Durban, led to a major power outage in several substations. The loud explosion was heard by residents and large plumes of black smoke made visibility so poor on some roads that vehicles were forced to turn back.

Comment from Charl de Villiers, Agri-Western Cape, 25 June 2019
Page 1
Page range: 3 **Lines: 17 - 58** **<u>Introduction</u>** – If topographical and geotechnical constraints were factored into the elimination and refinement of routing options in the course of Tasks 2 and 3, these have not been presented for review. – Table 1 (pp 14 - 19) simply identifies studies that were consulted but no other detail is provided. – Tables 3 and 4 (environmental and engineering constraints respectively) provide spatial depiction of consolidated 'sensitivity' values which does not support review of the contribution of each category or factor to such sensitivity, in a particular place. This is not helpful. Also see comment below w.r.t. the Draft pinch-point analysis. – Questions that require elucidation include: o Would the gas pipeline/s potentially be routed via mountain passes and, if so, which ones? Large volumes of agricultural produce are ferried by road, and construction-related bottlenecks in mountain passes, for example, could impose signficant costs on affected producers and tranport logistics. o If existing road, rail and powerline infrastructure were to preclude using mountain passess as pipeline routes, would pipelines be laid through mountainous areas and, if so, would they still be laid in trenches? o How is it proposed that a gas pipeline would be taken across the deep river gorges that cut through the Garden Route and Tsitsikamma coastal forelands (e.g. the Gouritz, Maalgate, Gwaing, Groot, Bloukrantz and Van Stadens rivers)? Would pipeline routes have to skirt these features by being located further to north, such as via the Langkloof in the case of Phase 2, Mossel Bay-Coega? o Would pipeline-laying require blasting, either to remove rocky obstacles or excavate trenches in rocky environments such as associated with the extensive sandstone beds that occur inland of the Nuweveld Mountains in the vicinity of Sutherland and Fraserburg? o Likewise, does blasting in support of trenching through bedrock hold a potential risk to shallow aquifers and the delivery of groundwater to, particularly, farms? o Have palaeontological and archaeological constraints been factored into the identification of potential pipeline routes, even if only at the level of potential 'hotspots' such as in the broad vicinity of Laingsburg, Klaarstroom, Beaufort West and Fraserburg? – In the latter regard, it is strongly recommended that the Council for Geoscience be approached (for information on the location and significance of fossil deposits within the respective pipeline corridors. – The following specialists can be approached can be approached w.r.t. -- o Palaeontology: Dr Johan Almond (021) 462 3622 e-mail: <naturaviva@universe.co.za>; and o Geology/engineering geology: Dr Cameron Penn-Clarke e-mail: <cpennclarke@gmail.com> and Mr Frederik Stellenbosch e-mail: <fstapelberg@geoscience.org.za> 021 943 6700

Page 2

Page 8
Lines 1 – 7

Access roads
Who is responsible for the maintenance of access roads, and would access roads fall within the bounds of servitude agreements?

Page 8
Lines 58 – 69

Servitude negotiations (Also see Agri Western Cape comment on 'Gas Pipeline Development and Agricultural Consent', agricultural assessment, pp 10 and 11 and lines 127-148 cont'd as lines 1 - 23.)

- The SEA should include, for the purposes of external legal review, an example of a servitude agreement relating to a gas pipeline or, alternatively, Eskom powerline or renewable energy facility.
- Alternatively, such a draft agreement can be distributd among memberss of the project steering committee (viz. including Agri Western Cape and AgriSA).
- Will servitude agreements make provision for contractually-binding safety exclusion zones arounds vulnerable locations such as farmsteads and employee accommodation, and enforceable buffer zones between the proposed pipeline routes and farm dwellings?

Page 8
Lines 93 – 94/ 98 - 101

Communication during construction
Agri Western Cape strongly endorses a process of devolved -- i.e. local-level -- stakeholder communication that well precedes the commencement of construction and lays the foundation for stakeholder-based monitoring forums as proposed on page 59 of the Social Impact Assessment, lines 46 to 52. Channels for such communication ideally need to be established before the commencement of any EIA processes.

Page 8
Lines 102 - 103

Borrowpits

Will existing borrow pits be used, if available, or will the identification and development of candidate sites be subject to prospecting and mining application procedures as prescribed by the MPRDA 28/2002?

Page 3

Page 8
Lines 106 – 107

Fencing and access

- Will agreements with landowners w.r.t. fencing and access be incorporated in the servitudes agreements, or will these be subject to other forms of contact?
- It would be very useful for stakeholders if the SEA can identify and summarise the different types of agreement (if this were to be the case) that the gas pipeline developer/owner would enter with landowners as such agreements may related to substantially different aspects of such a project, e.g. servitudes, compensation for damages, access and fencing, and obligations and underatkings relating to site preparation, construction and post-construction remediation.

Pages 8 and 9
Lines 143 – 148 / 1 - 28

Construction camps and work fronts

- The number and concentration of construction personnel at each 'work front' need to be clarified.
- What is meant by 'peak times', and what is the duration of such a 'peak time'?
- Reference is made to ca. 30 people who would be on site during pipeline construction. Would these people be at the 'work front', and would they have to be transported to and from the construction camp on a daily basis, entailing round trips of up to 100 km a time?
- Where would the 'average of 300 personnel' be deployed during construction?
- If it takes approximately six months to lay 100 km of pipe, would this be the length of time that construction teams could be accommodated on individual farms?

Pages 22 – 23
Lines 40 – 99 / 1 – 49

Draft pinch point analysis

- It will be of great assistance to stakeholders if the individual layers/factors that contributed to the pitch-point analysis could be made available seprately w.r.t. future opportunities to comment on the SEA.
- This information is currently concealed as a result of the synthesis of information, which makes it impossible to know precisely which factors contribute to reducing the envinonmental/technical suitability of particular corridor options.
- Would it, for example, be feasible for the CSIR to make such disaggregated information available for specific localities, on request?

Page 4

Page 23
Lines 50 - 68

Public consultation.

- We are concerned that the CSIR has limited its language of communication to English-language media. Language should not be an obstacle to effective and inclusive public participation. In this regard you are reminded of the statutory principle 'that the participation of all interested and affected parties in environmental governance must (own emphasis) be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participaton, and participation by vulnerable and disadvantaged persons must be ensured' (section 2(4)(f), National Environmental Management Act 107 of 1998).
- By solely relying on English-language print media, you have effectively excluded -- in the rural areas of the Western Cape and Northern Cape in particular -- all or most people whose mother tongues is not English, who do not have access to or read English-language newspapers, and who rely on radio and other forms of media for news in languages other than English.
- This contention is supported by the following breakdown of the top three language groups for the Western Cape, Northern Cape and Eastern Cape respectvely as reported by the 2011 census (SSA, 2014):
  - Western Cape: 1. Afrikaans (49.6%); 2. isiXhosa (24.7%); 3. English (20.2%).
  - Northern Cape: 1. Afrikaans (53.8%); 2. Setswana (33%); 3. isiXhosa (5.4%)
  - Eastern Cape: 1. isiXhosa (78.8%); 2. Afrikaans (10.6%); 3. English (5.6%).

  cf: <http://www.statssa.gov.za/publications/Report-03-01-70/Report-03-01-702011.pdf> (Accessed 24-06-2019)

- It is strongly recommended that, in order to improve the public exposure of the SEA to at least agricultural interests in rural areas, and to correct the language bias that has characterised your media coverage to date, the CSIR places public notices and press releases in *Landbouweekblad* which is the largest-circulating mass agricultural publication in South Africa. In May 2018, *Landbouweekblad* had ca. 27 300 readers compared with Farmer's Weekly's ca. 11 550. (cf: <http://www.marklives.com/2018/05/abc-analysis-q1-2018-the-biggest-circulating-consumer-mags-in-sa/>).
- The same applies to *Radio Sonder Grense* <http://www.rsg.co.za/>, the SABC's Afrikaans language channel with 1 299 000 listeners (<https://themediaonline.co.za/2018/12/what-the-latest-ram-reveals-about-radio-listenership/>).

Page 5

AGRICULTURAL ASSESSMENT

Page Range: 7
Line/s: 1 - 115

Sensitivity analysis

- Irrigation infrastructure and farm accommodation (farmsteads, employee homes) have not been identified as sensitive features within agricultural contexts. Their presence could influence the suitability of certain route choices.
- Irrigation infrastructure would include dams, irrigation canals, abstraction infrastructure (diversion weirs and off-take structures, pump stations and pump foundations, boreholes and electrical installations) and irrigation systems within orchards and vineyards.
- Disruption of this infrastructure may result in adverse impacts on agricultural production from the level of individual land parcels to farming regions and sectors serviced by irrigation schemes. It is important to recognise that even at the relatively coarse scale of corridor selection, areas supporting irrigation schemes should emerge as mappable features within the receiving landscape (i.e. as distinct from more localised infrastructure which can probably not be picked up by broad scale mapping, and which would have to be identified during route selection and the EIA processes).
- The absence of information and assessment relating to irrigation infrastructure as a potentially significant source of agri-environmental sensitivity represents a gap in the agricultural assessment (and potentially the identification and assessment of technical constraints). This gap needs to be addressed by the SEA process.
- It is recommended that that the Department of Water and Sanitation, provincial agriculture departments, affected catchment agencies, water user assocations and irrigations boards be approached for information on:
  - The location of irrigation infrastructure that can be mapped at the scales that have applied to this SEA;
  - The extent and costs of disruption to agricultural productivity if such infrastructure were to be put out of commission, either temporarily or permanently; and
  - Which irrigation infrastructure needs to be avoided *in toto* by any gas pipelines and related activity.
- Although the issue of farm accommodation and settlements would also feature as a focal area of concern under the aegis of the social constraints' analysis and the social impact assessment, it must be emphasised that farms can represent important locii of settlement and vulnerability.
- Again, the identification of such features relative to the scale of mapping and analysis does emerge as a methodological issue, but farm accommodation must not be ignored as a potential source of adverse impacts or as a mappable constraint to inform the sensitivity of the receiving environment and the pinch analysis.
- Relatively large concentrations of people can be expected on farms during particularly harvest seasons, or on large, labour-intensive operations. These people must be accommodated, and their accommodation can be identified and mapped where this amounts to on-farm settlement as opposed to simple residence.

Page 6

- The social dimension of potential adverse impacts on farm-based people and communities needs to be highlighted and investigated.
- Similarly, farm-based accommodation and settlements (insofar as this is technically feasible) need to be factored into the agri-environmental constraints' analysis.
- The agricultural and social impact assessments generally need to report more explicitly on the potential vulnerability and sensitivity of farms and their dependent communities to adverse impacts that may result from the consruction and operation of the gas pipelines.
- Limits of acceptable social change need to be identified w.r.t. particularly farms and farming areas, and these must inform the design and selection of the final corridors. This needs to be an open, consultative process.

Page Range: 10 - 11
Line/s: 128 – 148; 1 - 23

Gas pipeline development and agricultural consent

- We cannot agree with the blanket statement that gas pipelines would have a 'low' to 'medium' impact on agriculture. This can only be concluded on the basis of more detailed assessment and the inclusion of irrigation infrastructure, as outline above, within the suite of factors that must inform the sensitivity of the receiving agricultural environment and the constraints that agriculture may pose to the final selection of pipeline corridors.
- Landowners who are being expected to contract into the development through servitude agreements must themselves be allowed to decide on the significance of impacts on their farming activities and income and livelihood security, and whether they are prepared to countenance such impacts and absorb the attendant costs. This cannot be left to a desktop exercise that draws inferences about the potential economic and social implications of gas pipeline development for individual landowners without the latter having had a reasonable opportunity to inform the corridor selection process and determine the implications of the proposed developments for their rights and interests.
- As previously indicated, it is vital that stakeholders be given an example of a servitude agreement so that this can be independently reviewed by lawyers before final decisions are taken about the alignment of corridors, and these are put forward for a Cabinet decision.
- We also disagree that it would be sufficient for agricultural compliance statements to be drafted (a) in terms of legislation that, at the time of writing, is not yet in force and (b) norms and standards have not been gazetted, on the basis of a consultative process, for geographic areas (viz. the gas pipeline corridors) in which specified activities may be excluded from the requirement for environmental authorisation in terms of sections 24(2)(c) and 24(2)(d) of the National Environmental Management Act 107 of 1998.

Also, if such exceptions from the NEMA EIA regulations were not to be in force by the time that the gas pipeline developer would be in a position to apply for environmental authorisation for the relevant activities, it would be incumbent upon the responsible competent authorities to determine the type, scope and level of assessment would be appropriate for such applications. It would be undesirable (if this can be argued as a legal option), for competent authorities to give

Page 7
– up their powers and mandates to determine what would be sufficient in order to ensure informed decision that conforms to all the relevant requirements of NEMA and associated specific environmental management Act because another law (currently a draft Bill) would potentially permit a less rigorous approach to agricultural investigations. This cannot be supported. – Further, the Draft Preservation and Development of Agricultural Land Framework Bill does not require that agricultural planning and assessment must be premised on the identification – through the systematic assessment and elimination of unsustainable alternatives, in line with the mitigation hierarchy and duty of care -- of the best practicable environmental option for proposed agricultural developments. These are bedrock principle in our system of integrated environmental management which have not, to date, been integrated with the Draft Bill in question. – In short, agricultural compliance statements, as proposed by the SEA, cannot be accepted as an adequate agri-environmental safeguard for the purposes of expedited gas pipeline development. ends

Comment from Siphokazi Ncume, City of Johannesburg, Environment and Infrastructure Services Department, 27 June 2019

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UNIT: IMPACT MANAGEMENT & COMPLIANCE MONITORING

TO : CSIR Environmental Management services

FROM : Environment and Infrastructure Services Department (COJ)

GAS PIPELINE STRATEGIC ENVIRONMENTAL IMPACT ASSESSMENT: GAS PIPELINE: PHASE 3 CORRIDOR GAUTENG REGION

INTRODUCTION

The Gas pipeline strategic environmental assessment compiled by CSIR refers. The subject project is a phased gas pipeline. The phased gas pipeline corridor are founded on a set of nine phased gas pipeline routings based on a conceptual phased gas pipeline network identified by Phakisa Off-Shore Oil and Gas. The Gauteng Region forms part of Phase 3 Corridor.

COMMENTS:

Upon review of the studies the Department has noted the following:

- Existing drivers: Pressure areas on Aquatic ecosystems:
  - 81% of the rivers are perennial rivers
  - 62% of the corridor is in a natural state with a further 2% degraded
  - Conservation area=2% (Cradled of Human Kind World Heritage Site)
- Mitigation measures on table 8 (Wetlands and River Specialist report).
- Maps from page 43 to 46 on the Wetlands and Rivers Specialist Report have been noted.
- Preliminary route determination map has been included.

Avifauna:

- The recommendations should be seen as generic and not replacing the project specific recommendations which will be generated for an individual project that requires an Environmental Impact Assessment.

Gaps

- Pre-cautionary approach: ground truthing will be done and infield assessments will be done once the exact alignments have been established.
- No cumulative impacts have been assessed

CONCLUSIONS AND RECOMMENDATIONS OF THE SPECIALIST STUDIES

- Biodiversity impacts are unavoidable on a large scale projects: it is linear project and it has to avoid human settlements and agricultural land.
- Sensitivity maps and desktop analyses can be used for any other project that is planned within the corridor.

It should be noted that the Department will be in a position to make informed recommendations when the actual alignments within this region have been determined and mapped.

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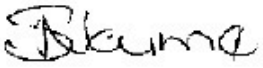
Should you have any queries or require any further information, please do not hesitate to contact me.



Siphokazi Noume
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Page 2 of 2

isiZulu Comments – 14 August 2019

Page 1

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1. **Lokhu kumbelwa kwepayipi leGasi kuzoyihlukumeza kanjan indawo ohlala kuyona noma umphakathi wakho?**

kuzawuhlukumeza ngokuthi makungenzeka kubekolona
ubungozi, baningi abazolimalelwa izimpahla zabo, kanye
nezindawo zabo, ngoba igesi iyibungozi obungalawuleki

2. **Ngabe ucabanga ukuthi lokhu kumbelwa kwaleli payipi legesi kuzokwenzela into ethile wena noma umphakathi wakho? Uma kukhona okuzokwenzeka kanjan?**

Ukumbiwa kwepayipi ngeke kuwenzele lutho umphakathi
wamathuba omsebenzi angeke athole ngoba sonke syazi
ukuthi imisebenzi ayikho.

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3. **Konje lonke lolulwazi mayelana naloluchungechunge lokumbelwa kwepayipi leGesi ulithole kanjan?**

Ngakuhlanganela kanye nomphakathi kuma Meetings abiziwe inhlangano yaka SDCEA.

Makukhona ofisa ukukudlulisa ukhulume ngakho futhi

ukudlulisa ukuthi bavale ukumbiwa kwe gesi ngoba iyibungozi.

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Inamba yocingo: 084 231 1620

Umbiko wonyazi (email): Sanelesteven@gmail.com.

Sayina S.S Ntombela.

Usuku 30 July 2019

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1. **Lokhu kumbelwa kwepayipi leGasi kuzoyihlukumeza kanjan indawo ohlala kuyona noma umphakathi wakho?**

LENTO IZOBEKA IMPILO ZABANTU ABAHLWEMPU EMGODINI ENKULU LAMAPAYIPI AKAPHEPHILE AYIQHUMA KUBE SEKUFA ABANTU ABANYE BABAKE BEQULA

2. **Ngabe ucabanga ukuthi lokhu kumbelwa kwaleli payipi legesi kuzokwenzela into ethile wena noma umphakathi wakho? Uma kukhona okuzokwenzeka kanjan?**

MINA NGITHI HHAYI ANGEKE ISEMKELE KUTHI KUPHELA ABANTU BAZOTHELELWA YIMISEBENZI AND UMHLABA WETHU UZOLIMALA KAKHULU

Page 2

3. **Konje lonke lolulwazi mayelana naloluchungechunge lokumbelwa kwepayipi leGesi ulithole kanjan?**

NDITHOLE NGENTHANGANO EBIZWA NGO SEDCEA AMAGENZI NZUZO

Makukhona ofisa ukukudlulisa ukhulume ngakho futhi

UKULUMENI WETHU OSIPHETHE UYOKULULEKA UKUTHANGABEKANA NEMFUNO ZABANTU BAZOKULULEKA UKUZA BAZOKHULUMISANA NABANTU BAFUNA SEBESIZISHELA IMITO ABAZOKE NZA ABUFUNI UKUZWA UVO LWABANTU ABATHUPHEKILE

Igama: VUYO MFOLOZI

Indawo: GLENEAGLES

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Inamba yocingo: 0710959815

Umbiko wonyazi (email): MFOLOZIV@gmail.com

Sayina

Usuku 2/08/2019

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1. Lokhu kumbelwa kwepayipi leGasi kuzoyihlukumeza kanjan indawo ohlala kuyona noma umphakathi wakho?

Kuzo qala ngokulimala kwemuelo le-esiyitha
kakhulu iphinde ibe-igugu kithi. lokubelwa
kwalama payipi, kuletha ubungozi obukhulu sukeLA
kulo moya esiwuthola okwande. uzoshintsha
lobu ngozi singasho ukuthi intuthuko, ~~doo~~ kodwa
emnyakeni ezayo, inkulu inkinga esoba kuyona
kuyoba nzima ukuthi ilungiseke uma sodlala osomabhizinisi.

2. Ngabe ucabanga ukuthi lokhu kumbelwa kwaleli payipi legesi kuzokwenzela into ethile wena noma umphakathi wakho? Uma kukhona okuzokwenzeka kanjan?

into ezokwenzeka ubungozi bodwa labantu
abenzat lezinto abakheki emumva. ngisho
ukuthi bazo kwenza bazuze izizumbulu
zezimali basishiye nobungozi ngoba abanendaba
nezimpilo zethu akukho esokuzuza ngaphandle
bongaphephi. Qha into abayibhekile kuthi imali.

Page 2

3. Konje lonke lolulwazi mayelana naloluchungechunge lokumbelwa kwepayipi leGesi ulithole kanjan?

Silithole ngokubambisana nale nhlangano (SDCEA) isiyule amehlo, amadlebe yaphinde yasiqwashisa ngezinto ezithinta thina kaduva abantu abaphethe thina abasho lutho.

Makukhona ofisa ukukudlulisa ukhulume ngakho futhi

Ngifisa sengathi kungaba khona ukukungisa siphinde sikhoniphane lapho suke silandela usikolwethu ma-Afrika. Asikhonisiwe singenalutho. Akungadayiswa ngemindeni yethu. Kusi khombisa ukuthi anilungele ukukhola noma anilungele ukuba kulezo zikhundla okanye ukusidelela ngisho ngoba anikhombisanga ukuthathazeka.

Igama: Naledi Nene

Indawo: KWA-MAKHUTHA

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Usuku

30 July 2019

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1. **Lokhu kumbelwa kwepayipi leGasi kuzoyihlukumeza kanjan indawo ohlala kuyona noma umphakathi wakho?**

Mina njengesakhamuzi angivumelani nokumbelwa kwepayipi ngoba lizoletha obukhulu ubungozi. Okokuqala kukhona izingane ezincane eziduluyo noma ngabe ikuphi okwenza ngisho lokhu ukuthi uma lelipayi selifakiwe akekho obo esalandelela ukuthi kusahamba kahle yini ngoba

2. **Ngabe ucabanga ukuthi lokhu kumbelwa kwaleli payipi legesi kuzokwenzela into ethile wena noma umphakathi wakho? Uma kukhona okuzokwenzeka kanjan?**

Okuzokwenzeka nje ukuthi lizosilethela ubungozi futhi akekho umuntu emphakathini ozothola ithuba lomsebenzi ngoba uma lizofakwa lizofika nabantu bolo uma selinenkinga lizosala nomphakathi wami

Page 2

3. **Konje lonke lolulwazi mayelana naloluchungechunge lokumbelwa kwepayipi leGesi ulithole kanjan?**

SOCEA

Makukhona ofisa ukukudlulisa ukhulume ngakho futhi

Ngidimise nyana yonke lento

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Umbiko wonyazi (email): _____

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Usuku 14/07/2019

Page 1

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Email: gasnetwork@csir.co.za

1. **Lokhu kumbelwa kwepayipi leGasi kuzoyihlukumeza kanjan indawo ohlala kuyona noma umphakathi wakho?**

Bekuzoba yinto enhle ukube bekuzocabangelwa abantu abansundu abahluphekile, singabatholi abantu abangasebenzi ngoba sizobathatha ngayoyonke lento sibathembisa umsebenzi ongekho.

2. **Ngabe ucabanga ukuthi lokhu kumbelwa kwaleli payipi legesi kuzokwenzela into ethile wena noma umphakathi wakho? Uma kukhona okuzokwenzeka kanjan?**

Angiboni ukuthi ikhona engizokuthola kulotho wina kodwa kuzongilimaza kakhulu

Page 2

3. **Konje lonke lolulwazi mayelana naloluchungechunge lokumbelwa kwepayipi leGesi ulithole kanjan?**

SDCEA inhlangano elwela imphakathi ehluphekile iyona ~~[illegible]~~ ere yasitsiza ngolwazi

Makukhona ofisa ukukudlulisa ukhulume ngakho futhi

Akukho kuyasidinga siwumphakathi asizukulala sidle amapayipi thina

Igama: Phelele Ngubane

Indawo: KwaMakhutha

Address: 1023 KwaMakhutha

Inamba yocingo: 0731226153

Umbiko wonyazi (email): N/A

Sayina

Usuku 21/07/2019

Page 1

CSIR - Environmental Management Services
Annick Walsdorff and Rohaida Abed
P. O. Box 17001, Congella, Durban, 4013
Tel: 031 242 2300
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Email: gasnetwork@csir.co.za

1. **Lokhu kumbelwa kwepayipi leGasi kuzoyihlukumeza kanjan indawo ohlala kuyona noma umphakathi wakho?**

ngibona kukuhlukumeza thina bantu abamnyama ngoba lamapayipi akahambi emaSubhabhu lakuhlala khona abelungu, uma sekulikho izinto kuhlukume zaka thina ndlu emnyama.

2. **Ngabe ucabanga ukuthi lokhu kumbelwa kwaleli payipi legesi kuzokwenzela into ethile wena noma umphakathi wakho? Uma kukhona okuzokwenzeka kanjan?**

noma engavela amabhuba kuba awesikhashana so lento yepayipi legesi asiyefuni, ngoba ingozi futhi angeke bayifundise ngalezinto ukuthi ingozi kangakanani.

Page 2

3. **Konje lonke lolulwazi mayelana naloluchungechunge lokumbelwa kwepayipi leGesi ulithole kanjan?**

Sibonga ama workshop esiwenzelwa eSDCEA kodwa siyabuka ukusebenzisana kwethu nabo sesiyazi kunje sizobulawa.

Makukhona ofisa ukukudlulisa ukhulume ngakho futhi

Akukuningi engikuthanda ukucela uje ukuyekwa endaweni esikhona kuzo ngiyabonga asifuni izinto eziningi ezizosidunga ungowodo.

Igama: Nomfundo Nxumalo

Indawo: 1973 kwaMakhutha

Address: 1973 kwaMakhutha

Inamba yocingo: 060 446 8149

Umbiko wonyazi (email): ____________________

Sayina

Usuku 22/01/2019

Page 1

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1. **Lokhu kumbelwa kwepayipi leGasi kuzoyihlukumeza kanjan indawo ohlala kuyona noma umphakathi wakho?**

Konje sifike nini kulokhu esesikukhuluma sesinakho konke yini esikudingayo empilweni yethu ngoba ngokubona kwami yonke lento izodala izinkinga ezimpilweni zethu.

2. **Ngabe ucabanga ukuthi lokhu kumbelwa kwaleli payipi legesi kuzokwenzela into ethile wena noma umphakathi wakho? Uma kukhona okuzokwenzeka kanjan?**

Ngingajabula uma kungathiwa khona engingakuthola kodwa cha angiboni ngithola okusile kulento.

Page 2

3. **Konje lonke lolulwazi mayelana naloluchungechunge lokumbelwa kwepayipi leGesi ulithole kanjan?**

Sibonga konke esikwenzelwe uMvuvo
esebenzisana noSDCEA abasiphe ulwazi
lokwenza konke okuhle kokulwa nabantu
~~abasisizayo~~ abazosilethela izinto ezizosibulala

Makukhona ofisa ukukudlulisa ukhulume ngakho futhi

Ngicela ukudlulisa ukukhuluma okuthi
ake sihlukaniswe nezinto ezizosiqedha
nengabantu abahluphekile.

Igama: Nzuvele Mgcina
Indawo: 1982 kwa Makhutha
Address: 1982 kwa Makhutha Township
Inamba yocingo: 071 985 2658
Umbiko wonyazi (email): ______

Sayina

Usuku

24/07/2014

Page 1

CSIR - Environmental Management Services
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1. **Lokhu kumbelwa kwepayipi leGasi kuzoyihlukumeza kanjan indawo ohlala kuyona noma umphakathi wakho?**

Kuzongihlukumeza mina kanye nomphakathi engihlala kuwo ngoba ipayipi lihamba eduze kwala engihlala khona futhi izingane zizolimala

2. **Ngabe ucabanga ukuthi lokhu kumbelwa kwaleli payipi legesi kuzokwenzela into ethile wena noma umphakathi wakho? Uma kukhona okuzokwenzeka kanjan?**

Akukho okuzokwenzeka kithi nasemphakathini kodwa uku beka izimpilo zethu encuphemi ngalegesi ezoba yinkinga kithi

Page 2

3. **Konje lonke lolulwazi mayelana naloluchungechunge lokumbelwa kwepayipi leGesi ulithole kanjan?**

Ukubambela izinhlelo zakwa SDLEA ikhona okungisiceli ngabe angazi lutho ngalolulwelo oku khulunywa ngayo.

Makukhona ofisa ukukudlulisa ukhulume ngakho futhi

Akekushintshwe indlela okubukwa ngayo abantu abamnyama nezindawo ababehlala kuzo akusizo ezokwenza izizo.

Igama: Mzo Mahlobo

Indawo: kwa Makhuthe

Address: 1341 kwa Makhuthe

Inamba yocingo: 079 711 5100

Umbiko wonyazi (email): _____

Sayina

Usuku

25/07/2019

Page 1

CSIR - Environmental Management Services
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Email: gasnetwork@csir.co.za

1. **Lokhu kumbelwa kwepayipi leGasi kuzoyihlukumeza kanjan indawo ohlala kuyona noma umphakathi wakho?**

Kuzoyilimaza kakhulu indawo engihlala kuyo ngoba kuyimanje kukhona kwenzeka bangasebenza abantu bendawo yize kwakumbelwa nokho yento ezosinika inkinga kusasa.

2. **Ngabe ucabanga ukuthi lokhu kumbelwa kwaleli payipi legesi kuzokwenzela into ethile wena noma umphakathi wakho? Uma kukhona okuzokwenzeka kanjan?**

Anginakho nokuncane engizokutho la kulokhu ngoba sikhala ngezinto eziningi umphakathini esihlala kuwo.

Page 2

3. **Konje lonke lolulwazi mayelana naloluchungechunge lokumbelwa kwepayipi leGesi ulithole kanjan?**

Sengibonga ukwazana noMvuzo osebenza kwa SDCEA okungayena osinike lolulwazi.

Makukhona ofisa ukukudlulisa ukhulume ngakho futhi

Anginawo amazwi amaningi engingawasho ngawo kodwa kuningi okuhle esikudingayo okudlula amapayipi lawa azombelwa.

Igama: Mampondo Nkulu

Indawo: kwaMakhutha

Address: 14E Manqweni kwaMakhutha

Inamba yocingo: 063 832 2026

Umbiko wonyazi (email): ___

Sayina

[signature]

Usuku

22/07/2019

A.7.10 Comments and Responses Report

As noted above, the SEA team has received numerous inputs from a range of stakeholders throughout the SEA Process. The comments documented in this Appendix includes the comments submitted via the online stakeholder registration portal on the project website, as well as the comments received during the review of the Draft SEA Report Chapters and Specialist Assessments (i.e. 25 April 2019 – 24 June 2019).

CONTENTS

1. COMMENTS RECEIVED VIA THE PROJECT WEBSITE PRIOR TO THE RELEASE OF THE SEA REPORT

	Stakeholder Reviewer Name	Organisation	Reviewer Comment	Response
1	Vanessa Maclou	KZN EDTEA: eThekwini District	My interest lies in the Durban project and I work for KZN Provincial Department of Environmental Affairs.	**Response from the CSIR**: Noted, Ms. Maclou was added to the project database and was involved in the SEA. Many representatives from the KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (KZN DEDTEA) were involved in Authority Meetings held during the SEA Process.
2	Sinethemba Madondo	Gauteng Department of Agriculture and Rural Development	Competent authority for environmental management in the Gauteng Province	**Response from the CSIR**: Ms. Madondo was added to the project database and commented on the SEA Process. Many representatives of the Gauteng Department of Agriculture and Rural Development (GDARD) were involved in the SEA Process.
3	Khanyisa Hoveni-Maphutha	The Department of Trade and Industry	Contribute towards the consideration for the PGPN to take into account business and trade supporting considerations for a competitive oil and gas industry in SA.	**Response from the CSIR**: Noted, the Department of Trade and Industry were consulted with on numerous occasions to gather input that would inform the SEA Process and to seek gas demand related information. This stakeholder also serves on the Operation Phakisa A1 Work Group, and is therefore kept up to date on project progress.
4	Bonelwa Mabovu	Department of Water and Sanitation	My interest is to find out about the most appropriate methods for the gas exploration and exploitation. I am also interested on the positives and negatives that comes with this project in converting gas to power in an environmental friendly manner.	**Response from the CSIR**: This SEA Process does not assess impacts associated with gas exploration or exploitation. This SEA only assesses the transportation of gas in onshore pipelines within the corridors at a transmission pressure from the source of the gas to the point of delivery, which is expected to be industrial areas or power stations. The impacts associated with the use of the gas by the customers are also not assessed within this SEA Process. Projects associated with exploration and exploitation of gas, as well as the use of the gas (such as Gas to Power Stations) would be subject to separate Environmental Authorisation processes.
5	Shaazia Bhailall	City of Cape Town	Project manager for City of Cape Town gas studies.	**Response from the CSIR**: Noted, this stakeholder has been actively involved in the SEA Process and also serves on the Project Steering Committee and Expert Reference Group.
7	Leonie Fouche	Dr Beyers Naudé Local Municipality	We are currently busy with the review of our Integrated Development Plan and this development needs to find expression in our IDP, more specifically the potential impacts it may have on our environment, infrastructure, spatial-, social- and economic development.	**Response from the CSIR**: Noted. For the Gas Pipeline SEA, Integrated Development Plans and Spatial Development Frameworks were considered for Provinces and **District Municipalities** in order to inform the preliminary mapping that was undertaken as part of the Province and Municipal Feedback Exercise. During this exercise, Provinces and Municipalities were requested to assist the Project Team with identifying areas designated for future energy intensive activities, such as industrial development or potential mining operations, as well as areas where major road/railway infrastructure is planned. Therefore, Spatial Development Frameworks and Integrated Development P9lans for **Local Municipalities** were not considered. This also owes to the scale of the gas pipeline corridors, and the understanding that feedback from the District Municipalities would be sufficient in terms of Local Municipality plans. Nevertheless, these frameworks and plans will need to be considered at the project specific stage once specific routes for the infrastructure have been identified.
8	Danita Hohne	Department of Water and Sanitation - Upington	As I am managing the groundwater in the Karoo in the Northern Cape it is of interest to me to know about these developments.	**Response from the CSIR**: Noted. The impact of the proposed gas pipeline on groundwater is discussed in the Integrated Biodiversity Assessment (Part 4.2.1 and Appendix C.1 of the Gas Pipeline SEA Report).

	Stakeholder Reviewer Name	Organisation	Reviewer Comment	Response
9	Phumla Ngesi	Petroleum Agency SA	Corridors to be assessed potentially overlap areas where they have either rights (exploration and production) or permits or under applications. Petroleum Agency SA regulates such activities, hence the interest.	**Response from the CSIR**: Noted, the applications regulated by the Petroleum Agency of South Africa have been considered in the SEA Process. Refer to Part 1 of the Gas Pipeline SEA Report for additional information. However, the Project Developer will communicate and negotiate with the Petroleum Agency of South Africa for co-existence during the Project Specific stage as well, once a specific gas pipeline project has been identified.
10	Raoul Goosen	Industrial Development Corporation	Project developer and financial investor	**Response from the CSIR**: Noted. This stakeholder was added to the project database.
11	Charl de Villiers	Agri-Western Cape	I shall be participating in this process in an advisory capacity to Agri Western Cape.	**Response from the CSIR**: Noted, this stakeholder has been actively involved in the SEA Process and also attended various public meetings.
12	Christo Venter	Agri-Eastern Cape	Agri Eastern Cape would like to register as an interested and affected party on behalf of our members.	**Response from the CSIR**: Noted. This stakeholder was added to the project database.
13	Salome Strydom	Emfuleni Local Municipality	Need to be informed if we will be affected by the proposed project.	**Response from the CSIR**: Noted. This stakeholder was added to the project database. The Emfuleni Local Municipality falls within the Sedibeng District Municipality, which falls within the Phase 3 gas pipeline corridor.
14	Mushfiqah Abrahams	Mossel Bay Municipality	Providing relevant input as a municipality within the Western Cape as well as learning from the processes involved and environmental strategies that are carried out within this development.	**Response from the CSIR**: Noted. This stakeholder was added to the project database.
15	Andrew Bradbury	SLR Consulting	We would like to register SLR Consulting (Pty) Ltd. We are interested due to our professional work in the Oil and Gas industry.	**Response from the CSIR**: Noted. This stakeholder was added to the project database.
16	Anne Flynn	Falcon Oil & Gas Ltd	I work for Falcon Oil & Gas Ltd. ("Falcon"). Falcon holds a Technical Cooperation Permit ("TCP") covering an area of approximately 7.5 million acres (approximately 30,327 km^2), in the southwest Karoo Basin, South Africa. The TCP was granted to Falcon in terms of section 77 of the Mineral and Petroleum Resources Development Act 28 of 2002 ("MPRDA") and provides Falcon exclusive rights to apply for an exploration right over the underlying acreage which Falcon invoked, having submitted an exploration right application in April 2010. Given the interests our company holds in the Karoo, we would very much appreciate receiving updates regarding the SEA.	**Response from the CSIR**: Noted. This stakeholder was added to the project database, and thus received relevant project updates. Furthermore, the CSIR and iGas met with representatives of Falcon Oil and Gas Ltd in Cape Town on 26 October 2017 to seek their feedback on the draft initial corridors. The inland corridor covers the Karoo region. A link to the potential shale gas sweet spot area (identified as part of the CSIR Shale Gas SEA) has also been incorporated into Phase 2 of the gas pipeline corridor.

	Stakeholder Reviewer Name	Organisation	Reviewer Comment	Response
17	Ansie Smit	University of Pretoria	Following the research on environmental, social and economic considerations. Interested in any hazard and risk assessments.	Response from the CSIR: Noted, a range of specialist assessments were undertaken as part of the SEA Process. Specifically, a Seismicity Assessment was undertaken for the Gas Pipeline SEA. Professor Andrzej Kijko of the University of Pretoria peer reviewed the Seismicity Assessment for the Gas Pipeline SEA. The Seismicity Assessment is included in Appendix C.2 of the Gas Pipeline SEA Report. Quantified risk assessments to evaluate safety risks associated with the proposed transmission pipeline will be undertaken once a specific route has been identified.
18	Johannes Wessels	The Enterprise Observatory of SA	We concentrate on how entrepreneurial space manifests in towns and cities and a national development initiative like the Gas Pipeline Network and expanded electricity grid will definitely impact on all urban settlements in the proposed corridors. It would be important to assess the status quo of enterprises in the towns and cities in the envisaged corridors prior to the development. There are certain regularities that manifest in how enterprises from 19 different enterprise sectors settle in towns and cities. The correlation between the majority of these sectors are such that one can forecast the potential expansion or contraction of entrepreneurial opportunities that may develop. EOSA already possesses a data base in excess of 83 000 enterprises in 430 SA cities and towns covering all formal enterprises in those localities. We are convinced that our methodology and approach could assist in establishing an enterprise baseline for the respective corridors and provide a basis to determine up front the entrepreneurial space that may open in the process. It could also serve to indicate where enterprise vulnerability would emerge by the changing nature of sub-regions (e.g. tourism opportunities that may be negatively affected if there is large scale construction and development taking place).	Response from the Settlement Planning, Disaster Management and related Social Impacts Integrating Author: Noted with thanks. A Settlement Planning, Disaster Management and related Social Impacts Assessment was commissioned as part of the Gas Pipeline SEA, and it is included in Appendix C.3 of the Gas Pipeline SEA Report. The economic benefits stemming from enterprise development and growth are key considerations when undertaking site-specific socio-economic studies, following the identification of the final routing of the pipeline. Consultation with relevant organisations, authorities and departments, such as the Enterprise Observatory of South Africa (EOSA) at the Project Specific stage will play a valuable part in providing the necessary enterprise baseline information that could inform project or site specific management measures to promote economic benefits.
19	John Smelcer	Webber Wentzel	I have been the lead legal advisor for the Gas IPP programme for the IPP office, for the Gas Industrialisation Unit at the dti and for a number of upstream industry players. We have a central interest in ensuring that South Africa's coming gas economy is underpinned by adequate and optimal infrastructure with appropriate risk allocation around it.	Response from the CSIR: Noted. This SEA for Gas Pipeline Infrastructure will serve to enable the provision of optimal and adequate infrastructure to support the gas economy.

	Stakeholder Reviewer Name	Organisation	Reviewer Comment	Response
20	Kisa Mfalila	World Bank	An interested stakeholder to contribute technical ideas into the discussions that would influence thoughts and concepts.	**Response from the CSIR**: Noted. This stakeholder was added to the project database, and thus received relevant project updates.
21	Mandy Kula	SLR Consulting	We would like to register SLR Consulting (Pty) Ltd. We are interested due to our professional work in the Oil and Gas industry.	**Response from the CSIR**: Noted. This stakeholder was added to the project database.
22	Marthie Kemp	University of the Free State	I am involved in research on Oil and Gas Exploration with the WRC and the SEA for Shale Gas Development in the Karoo	**Response from the CSIR**: Noted. This stakeholder was added to the project database.
23	Philip Lloyd	Energy Institute, CPUT- Professor	I was part of the original Mossgas team, and have long been interested in the further development of gas use in SA. I was heavily involved in the first CBM work in SA, and started to look at distribution when I cut my teeth on the Secunda to Middelburg line, which had to be quadrupled in capacity once the availability became known. I worked with Shell on a possible distribution model for shale gas, which included a north-south line centred on Beaufort West feeding a direct reduction plant at Sishen and the PetroSA plant at Mossel Bay, and a coastal line feeding a series of 250MWe stations from Coega in the east to Saldanha in the west.	**Response from the CSIR**: Noted. This stakeholder was added to the project database.
24	Roger Rudd	Reatile Group (Pty) Ltd / Reatile Gastrade (Pty) Ltd	Reatile Group is a 100% black owned Group of Companies with a 100% ownership of IGoliGas (natural gas pipelines within the Johannesburg Metro area), 100% ownership in Reatile Gastrade (NERSA licenced to trade with Gauteng, Mpumalanga and KwaZuluNatal Provinces), 40% shareholding in Easigas (LPG supply is Southern Africa), 25% shareholding in CNG Holdings (Licenced for CNG by NERSA) and 30% shareholding in Vopak South Africa (one of the world's largest builders and operators of bulk fuel and gas terminals). Reatile Group therefore has huge investments in the Energy and Gas Sectors of the South African economy and with its overall knowledge and experience can add value to this Assessment.	**Response from the CSIR**: Noted. This stakeholder was added to the project database.
25	Sydney Zeederberg	Midlands Exergy (PTY) Ltd	Midlands Exergy is an independent consultancy advising clients and developing strategies for the future gas economy in South Africa. This is backed-up with experience gained through developing Sasol's gas	**Response from the CSIR**: Noted. This stakeholder was added to the project database. A range of Biodiversity Assessment studies were undertaken as part of the SEA Process to assess the risk of the proposed infrastructure on terrestrial and aquatic ecosystems and species. These studies are captured in Appendix C.1 of the Gas Pipeline SEA

	Stakeholder Reviewer Name	Organisation	Reviewer Comment	Response
			network from the start. As an individual I am a keen birder and a citizen scientist and I am interested in protecting all the habitat in South Africa as far as possible.	Report.
26	Wayne Glossop	Wartsila	We are a potential supplier of key gas related equipment to the project directly and indirectly through related power projects.	**Response from the CSIR**: Noted. This stakeholder was added to the project database. The Project Developers may contact the stakeholder, as and when required during the Project Specific stage.
27	Keith Wilson	Private	I am a writer currently writing a book on unconventional gas extraction in South Africa.	**Response from the CSIR**: Noted. This stakeholder was added to the project database. A range of Specialist Assessment studies were undertaken as part of the SEA Process to assess the risk of the proposed infrastructure on terrestrial and aquatic ecosystems and species, sensitive receptors (from a landscape/visual perspective), seismicity, and settlements and towns. These studies and are captured in Part 4 and Appendix C of the Gas Pipeline SEA Report.
28	Sharnae Hopewell	Private	I am resident in one of the indicated routes.	**Response from the CSIR**: Noted. The SEA Process has identified the optimum 100 km wide corridors. A gas pipeline (i.e. a specific route) would only be developed if there is a source of gas, a demand for the gas, and a strong, approved business case. If such a pipeline project is deemed justifiable by the Developer, a pipeline route selection process will be commissioned and a streamlined form of Environmental Assessment would be undertaken (i.e. such as a Basic Assessment Process) to obtain necessary Environmental Authorisation. In this regard, all affected landowners will be consulted with during such an Environmental Authorisation Process and during servitude negotiations or discussions.
29	Sarah Watson	Savannah Environmental (Pty) Ltd	To keep up to date with the project and SEA process.	**Response from the CSIR**: Noted. This stakeholder was added to the project database, and thus received relevant project updates.
30	Ryana Johnson	Private	I would like to continue to be informed regarding the EIA for the gas and pipeline network.	**Response from the CSIR**: Noted. This stakeholder was added to the project database, and thus received relevant project updates. It should be noted that the process being undertaken for the Gas Pipeline is a Strategic Environmental Assessment, not an Environmental Impact Assessment.
31	Ebrahim Takolia	Monetizing Gas Africa	Is there any more detail related to the pipeline network – size, the route proposed? MGA is an investor in gas infrastructure and we would certainly like to learn more.	**Response from the CSIR**: Noted. This stakeholder was added to the project database, and thus received relevant project updates. Additional information was provided to the stakeholder in 2017 via email. Part 2 of the Gas Pipeline SEA Report contains information related to the expected specifications of the pipeline. The SEA is only considering high pressure transmission pipelines, with an expected diameter of about 660 mm. Reticulation and distribution pipelines were not considered as part of the SEA.
32	Darryl Hunt	Private	My interest is potential linkages to LNG import nodes.	**Response from the CSIR**: The gas pipeline corridors have been located so that they cover the main anchor points. These include the Ports of Richards Bay, Ngqura and Saldanha, which addresses the aspect of LNG import nodes.
33	Errol Finkelstein	Garden Route Biosphere Reserve NPC	As a UNESCO Biosphere Reserve we are continuously interested in reconciling the development needs of Man, with those of the environment in which they take	**Response from the CSIR**: Noted. This stakeholder was added to the project database, and thus received relevant project updates.

	Stakeholder Reviewer Name	Organisation	Reviewer Comment	Response
			place.	
34	Ayanda Mngadi	Hulamin Limited	Hulamin as one of the biggest consumers of gas in the country (300 million pa) is exploring the possibility of a natural gas pipeline to Pietermaritzburg.	Response from the CSIR: Noted. This stakeholder was added to the project database, and thus received relevant project updates. Phase 7 of the Gas Pipeline Corridors covers the Pietermaritzburg area.
35	Lionel Joubert	RHO-TECH	Potential large user.	Response from the CSIR: Noted. This stakeholder was added to the project database, and thus received relevant project updates. Phase 7 of the Gas Pipeline Corridors covers a large area of KwaZulu-Natal.
36	Karen Claxton	Moquini Coastal Estate Homeowners Association	The Homeowners Association is interested in all projects which may have an environmental impact on our local area.	Response from the CSIR: Noted. This stakeholder was added to the project database, and thus received relevant project updates.
37	Eric Stratford	Cheric Energy	There are MANY other forms of RENEWABLE energy that are being rejected outright by Eskom, and blatant non-truths within this document relating to job creation and community enrichment. Exploration for gas is already hitting hard resistance from us, so this application is just proof that this Government is creating a farce out of our constitutional rights to a clean, safe environment. These pipelines are running through wildlife sanctuaries and reserves. Locals will never get these promised jobs. There are no jobs. It's all built with machinery. The pipeline is buried and nothing more in labour. Expect stiff resistance.	Response from the CSIR: Noted. This stakeholder was added to the project database, and thus received relevant project updates. While acknowledging that exploration for gas does result in impacts, these activities do not form part of the scope of work of this SEA. This SEA only assesses the proposed development of onshore gas transmission pipelines within the assessed corridors. Projects associated with exploration and exploitation of gas, as well as the use of the gas (such as Gas to Power Stations) would be subject to separate appropriate Environmental Assessment and permitting processes. It is also not the intention of the SEA Process to assess various power generation options or to evaluate the energy mix. The Integrated Resources Plan (IRP) provides evaluations and allocations in terms of the country's energy requirements. The SEA Process has identified the optimum 100 km wide corridors. Specific gas pipeline routes have not been identified/assessed as part of this project as a pipeline may only be developed if there is a source of gas, a demand for the gas, and a strong business case. In addition, a range of Biodiversity Assessment studies were undertaken as part of the SEA Process to assess the risk of the proposed infrastructure on terrestrial and aquatic ecosystems and species. A summary of these studies are captured in Part 4.2.1 of the Gas Pipeline SEA Report, with the complete report included in Appendix C.1. In that respect, wildlife sanctuaries and reserves located within the proposed corridors have been taken into consideration. As part of the SEA Process, the potential employment opportunities during the construction phase, the exact transhipment/distribution points or employment likely at these points and relative quantity and cost of gas cannot be specified, as this information is project specific. This level of information would only be available on a project specific basis. Therefore, the Settlement Planning, Disaster Management and related Social Impacts Assessment (refer to Appendix C.3 of the Gas Pipeline SEA Report for the complete assessment) included the following assumptions in this regard:

	Stakeholder Reviewer Name	Organisation	Reviewer Comment	Response
				▪ Limited short term local employment opportunities will be created, mainly during construction; ▪ Limited long term maintenance employment will be created, mainly with a level of skill required; and ▪ Some long-term employment at main distribution points will be created. Therefore, any potential job creation would be temporary during the construction phase, as mentioned on numerous occasions during stakeholder engagement (if the construction of the proposed pipeline does materialise, the extent of such jobs would then be determined per project, based on its business case). **Response from iGas**: As extracted from Table 5 page 42 of 98 of the promulgated Final IRP 2019 (Department of Energy, 2019): ▪ In addition to the currently installed capacity of 1,474 MW Solar Photovoltaic (PV) Power, 1,980 MW Wind and 300 MW of Concentrated Solar Power (CSP) generation capacity, totalling 3,754 MW of RENEWABLE energy, and the currently committed/contracted capacity of 814 MW Solar PV, 1,362 MW Wind and 300 MW CSP, totalling 2,476 MW, the new additional RENEWABLE energy capacity planned until 2030 is 6,000 MW Solar PV and 14,400 MW Wind totalling 20,400 MW. By 2030, this will bring the total installed RENEWABLE energy capacity to 26,630 MW. If Hydro is added, the current installed capacity is 2,100 MW with new additional capacity of 2,500 MW resulting in a total of 31,230 MW of RENEWABLE energy generation capacity by 2030. ▪ In comparison, the current installed capacity for Gas/Diesel is 3,830 MW with New Additional Capacity of 3,000 MW and a total of 6,830 MW by 2030. Gas is therefore not being proposed as an alternative or replacement for RENEWABLES, but to compliment RENEWABLE energy when it is not available. At this point in time, the technology does not exist to baseload the country on renewable energy, supplemented by battery storage. The Phased Gas Pipeline Network will work within the bounds set by the IRP for power generation capacity. Regarding industrial use, the markets targeted will be replacement of Heavy Fuel Oil, Coal and LPG. Specifically relating to the point raised regarding job creation, with reference to the ROMPCO (Republic of Mozambique Pipeline Company) pipeline for the construction of a 127 km loop line running from one scraper station to another, the construction team on site employed 640 local people over the duration of the construction period (12-18 months). No new vacant permanent openings were available post construction due to existing maintenance structures responsible for the line. The figures quoted are for a single construction front.

	Stakeholder Reviewer Name	Organisation	Reviewer Comment	Response
				If the pipeline development company wants the construction phase to be completed faster, there is an option to establish more construction fronts or possibly start at both ends of the line and work towards the middle. In some cases, two contractors are appointed and incentives are provided to the one that completes the work faster. These practices are well established internationally and they could potentially ensure that more locals receive employment opportunities during the construction phase.
38	Nicola Botha	Private	There is a company name is Renergen want to exploit in the Free State for natural gas can someone do environmental impact assessment please. Thank you.	Response from the CSIR: As noted above, projects associated with exploration and exploitation of gas, as well as the use of the gas (such as Gas to Power Stations) are not included or addressed in this SEA Process and would be subject to separate Environmental Authorisation processes. This SEA only assesses the transportation of gas onshore in pipelines within the corridors at a transmission pressure from the source of the gas to the point of delivery. If the exploration/exploitation of natural gas in the Free State by Renergen triggered the need for an Environmental Assessment, then Renergen would have been required to appoint an Environmental Assessment Practitioner and commission the necessary studies. This falls outside the scope of this SEA.
39	George Sabbagha	Stilbaai Conservation Trust	We as an NGO we would like to register as an I&AP because we concerned with conservation and would like to stay informed about the projects that could have an influence on our immediate environment.	Response from the CSIR: The Stilbaai Conservation Trust was added to the project database and kept informed of the SEA Progress.
40	Reece van Buren	AAM Group	▪ I represent AAM Group within the EAME region. AAM Group is a spatial information company working with many of the large infrastructure and mining projects, as well as providing various property and maintenance-related services. We provide a wide range of spatial services, not only in the form of data, but extending as far as business process management. Much of contemporary business processes / transactions are natively integrating and dependent upon spatial information – which is where our tacit expertise lies. Better understanding reality is the starting point of better management of costs and risks. High definition surveys facilitating Visual Asset Management offer improved and remote asset management, integration into streamlined workflows, centralized visual asset registers, improved efficiency and collaboration. We are	Response from the CSIR: Noted with thanks. This stakeholder was added to the project database.

	Stakeholder Reviewer Name	Organisation	Reviewer Comment	Response
			interested in providing more niche services into the transport sector (roads, rail and pipelines), which may involve hardware & software systems development. Attached, our services brochure for further reference, along with a digital business card. Please provide the slides presented and the details of the presenters at last night's event, along with information collected from the audience if available? ▪ AAM is a Geospatial Services company specialising in the collection, analysis, presentation and delivery of geospatial information. We digitise the real world for business and government. From vast expanses of landscape down to individual pieces of machinery, we capture it all. Whatever the scope of your geospatial information technology needs, AAM has the expertise and the experience to meet it. We believe that we can add valuable information to assist with decision making and visualization of this assessment.	
41	Jason De Beer	Exxaro Resources	Exxaro Business of Tomorrow is developing opportunities in the renewable energy, gas and microgrid business.	**Response from the CSIR**: Noted. This stakeholder was added to the project database, and thus received relevant project updates.
42	Keir Lynch	Overberg Renosterveld Conservation Trust	My interest is in the siting and planning regarding the development of corridors.	**Response from the CSIR**: Noted. This stakeholder was added to the project database, and thus received relevant project updates. The corridors have been located taking into consideration environmental sensitivities, engineering constraints, push and pull factors, findings of specialists and stakeholders, and inputs from municipalities and industries. Part 5 of the Gas Pipeline SEA Report includes a description of the process undertaken to identify the Final 100 km wide Gas Pipeline Corridors.
43	Mike Hepworth	A.Hak Industrial Services	Could you please advise current situation regarding the SEA on the proposed Gas Pipeline Network for RSA.	**Response from the CSIR**: Noted. This stakeholder was added to the project database. The SEA for the Gas Pipeline was initiated in 2017 and concluded in 2019. The Draft SEA Reports, as well as supporting documentation, are available on the project website. It is anticipated that the Final SEA Report will be placed on the project website and will be referred to during the corridor gazetting process.
44	Gareth Orritt	Private	We are a contractors accommodation site situated 14km's outside of Saldanha. We offer various types of accommodation at Kleinberg primarily for contract workers. In addition we have a Training Centre for the upskill and development of labor along the West	**Response from the CSIR**: Noted with thanks. This stakeholder was added to the project database.

	Stakeholder Reviewer Name	Organisation	Reviewer Comment	Response
			Coast. Kindly let me know if there would be any need for the use of our facility and offerings.	
45	Russell Garnett	Private	One of the proposed gas corridors goes through our farm.	**Response from the CSIR**: Noted. Please refer to the response to Comment 28 in this section of the chapter (i.e. Appendix A.7.10 of the Final SEA Report). If a project is deemed feasible, due Environmental Assessment and permitting processes will be followed by such a project, and those processes include your consultation. The developer for that project would undertake the necessary consultation with you.
46	Surina Esterhuyse	Private	I am interested in any development linked to oil and gas.	**Response from the CSIR**: Noted. This stakeholder was added to the project database, and thus received relevant project updates.
47	Kevin Morafo	Private	To understand how this will impact positively the livelihood of the communities, and how I could volunteer my time to assist where possible.	**Response from the CSIR**: Noted. A Settlement Planning, Disaster Management and related Social Impacts Assessment was undertaken as part of the Gas Pipeline SEA (Part 4.2.3 and Appendix C.3 of the Gas Pipeline SEA Report) to consider the impacts to communities, as well as associated benefits. As noted above, once a specific project has been determined, an Environmental Authorisation process will be undertaken and project specific benefits to affected and surrounding communities will be assessed at that level as well.
48	Fey Fand		We are an online environmental group of 535 members mainly from South Africa but also from other countries around the world. We want to be informed about this process and to participate in decision making in terms of the public review process.	**Response from the CSIR**: Noted. This stakeholder was added to the project database, and thus received relevant project updates. A range of Specialist Assessment studies were undertaken as part of the SEA Process to assess the risk of the proposed infrastructure on terrestrial and aquatic ecosystems and species, seismicity, and settlements and towns. These studies and are captured in Part 4 and Appendix C of the Gas Pipeline SEA Report.
49	Lwando Runeyi	Earth Free Environmental Consultancy (Pty) Ltd	In response to your newspaper advertisement on the City Press Newspaper (23 September 2018) regarding the matter on the subject line, I would like to register Earth Free Environmental Consultancy (Pty) Ltd as an Interested and Affected Party. Furthermore I would like to request a project Background Information Document (BID) if available.	**Response from the CSIR**: Noted. This stakeholder was added to the project database, and thus received relevant project updates. As requested, the Background Information Document was also sent to the stakeholder via email in October 2018.
50	Amelia Genis	Private	I am a concerned citizen, a property owner and a journalist.	**Response from the CSIR**: Noted. This stakeholder was added to the project database, and thus received relevant project updates.
51	Janet Solomon	Vanishing Present Productions	The environmental impacts of this project are potentially significant and equally important are the social costs and I would appreciate being part of the dialogue on this.	**Response from the CSIR**: Noted, this stakeholder was added to the project database, received relevant project updates and has been actively involved in the SEA Process and also attended the Durban Public Meeting.
52	Russell Sabor	GVJ Electrical & Instrumentation Contractors (Pty) Ltd	GVJ Electrical & Instrumentation Contractors (Pty) Ltd is a registered Electrical Contractor with its Head Office in Cape Town and branches in Vredenburg and Vredendal. We would like to register as an Interested and Affected Party and be informed of developments of the Gas Transmission Pipeline and EGI Expansion	**Response from the CSIR**: Noted. This stakeholder was added to the project database, and thus received relevant project updates.

	Stakeholder Reviewer Name	Organisation	Reviewer Comment	Response
			SEA.	
53	Prof Thomas Harms	Private	Gas is an ideal transition energy carrier with significant CO_2 emission reduction potential compared to coal, initially fossil based but eventually renewably based possibly until such time as electricity storage becomes economical and competes with e.g. long term gas based energy storage. To facilitate this development it appears a gas pipeline network is needed in South (ern) Africa to increase the investment potential for IPPs, national utilities, producers, consumers, importers, exporters etc.	Response from the CSIR: Noted. The need and motivation for a Gas Pipeline Network is captured in Parts 1 and 2 of the Gas Pipeline SEA Report. As noted above, the SEA Process does not assess various power generation options or to evaluate the energy mix. This level of information is covered in the Integrated Resources Plan (IRP) for South Africa.
54	Natalie Despy	Private	I wish to object to the proposed laying of gas pipes and exploration fracking. It is dangerous to both wildlife and humans and the environment.	Response from the CSIR: Noted. Please refer to the response to Comment 37 in this section of the chapter (i.e. Appendix A.7.10 of the Final SEA Report).
55	Joseph Magobe	Bua Mining Communities	The well-being of South Africans and sustainability of its environment.	
56	Nicolene Venter	Savannah Environmental	Proposed corridor locations	Response from the CSIR: Noted. This stakeholder was added to the project database, and thus received relevant project updates. Feedback on the proposed final corridor locations is provided in Part 5 of the Gas Pipeline SEA Report.
57	Kambal Majiza	Lonyuko Innovative Petroleum Group (LIPG)	Our company is an Oil and Gas company that trades energy commodities and we would like to have access to the pipeline once built.	Response from the CSIR: As noted above, only high pressure transmission pipelines have been assessed as part of the SEA. It has been undertaken with the anticipation that large industry and power stations would require access to the gas pipeline. Once a specific project has been determined based on the demand for the gas, an Environmental Authorisation process will be undertaken and consultation with Interested and Affected Parties will take place. The Lonyuko Innovative Petroleum Group (LIPG) is therefore requested to follow gas pipeline developments within the corridors, once gazetted, and to participate in the Environmental Assessment process at a project specific level to identify opportunities.
58	Paddy Norman	WESSA - Southern KwaZulu-Natal / Coastwatch / UGU Coastal Management Committee	1. "People Caring for the Earth": Concern for conservation issues; 2. Public Health and Safety; 3. Tax-payer!	Response from the CSIR: This stakeholder registered his interest on the project website in September 2018. An email response acknowledging his registration and confirming incorporation onto the project database was sent to the stakeholder on 20 September 2018. The stakeholder was also sent a copy of the Background Information Document, a link to the project website, and a schedule of Round 2 of the Public Meetings that took place from 8 October 2018 to 22 October 2018 at various key locations across South Africa. Biodiversity and Ecological Assessments (focusing on Terrestrial and Aquatic Ecosystems, and species) as well as a Settlement Planning, Disaster Management and related Social Impacts Assessment were undertaken as part of the SEA Process. These studies are included in Appendix C.1 and C.3 of the Gas Pipeline SEA Report.

	Stakeholder Reviewer Name	Organisation	Reviewer Comment	Response
				With regards to public health and safety, any Gas Pipeline development will be designed according to best practice measures, as well as national and international standards, to manage risks to both the public and to the operations. A gas pipeline (any phase of the proposed pipeline) would only be developed based on a, approved, viable business case, a guaranteed source of gas and a guaranteed demand. The project developer will build, own and invest in the pipeline, and recover the costs from the customer through tariffs. The tariff is regulated by the National Energy Regulator of South Africa. It will not be paid through government funds. For example, if iGas as a government company (State-Owned-Company) is the developer, iGas will fund the project via equity (iGas' money) and project finance (bank loans) and recover its investment by charging a tariff for the transportation of the gas.
59	Paddy Norman	WESSA - Southern KwaZulu-Natal / Coastwatch / UGU CMC	Why no public consultation meeting nearer my location? As a pensioner the cost of getting to the nearest venue, Durban, is too high. This must affect many other people, especially the very poor in rural areas, who will be directly impacted by construction and when there are problems. If I cannot get to the venue, then my response may not be adequately informed, which denies me my constitutional right in regard to all social and environmental issues.	Response from the CSIR: This comment and concern is noted. It is important to re-iterate that this Strategic Environmental Assessment (SEA) is a policy process and a high level assessment that includes the assessment of nine 125 km wide gas pipeline corridors that extend along the coast of South Africa from the border of Namibia to the border of Mozambique, with an inland link from Richards Bay to Secunda and Gauteng, a link from Gauteng to the border of Mozambique via Mpumalanga, as well as a link via the Karoo from Saldanha to Coega. The study area (i.e. corridors assessed) covers eight provinces, excluding Limpopo. The 125 km wide buffered corridors cover small areas of the Free State and North-West, but cover large areas of the remaining provinces. In addition, the buffered corridors included approximately 179 local and metropolitan municipalities. Kindly refer to Part 3 and Appendix A of the Gas Pipeline SEA Report for details on the public meetings held throughout the SEA Process (i.e. Round 1 (1 November 2017 – 8 November 2017); Round 2 (8 October 2018 – 22 October 2018); and additional round in Durban on 13 June 2019). Based on the size of the study areas, it is not possible or feasible, at this strategic level, to localise meetings. It is important to note that for those members of the public that could not attend the above-mentioned public meetings, various newspaper advertisements were published throughout the SEA Process (as noted in Appendix A of the SEA Report) to inform stakeholders of the project and relevant updates. Furthermore, information, presentations, notes of meetings, reports etc. were made available on the project website throughout the SEA Process. Stakeholders were not required to register or sign-up on the website in order to download project related information as information was freely available. Furthermore, if any stakeholder was finding it difficult to access any of the project related documents on the website, the project team assisted by either emailing through documents or discussing methods of alternatively providing the information to such stakeholders. Therefore, requests made by stakeholders were considered by the Project Team.

	Stakeholder Reviewer Name	Organisation	Reviewer Comment	Response
				However, it is worthy to note that if any gas pipeline development is scheduled to take place within the corridors (once gazetted); an Environmental Authorisation process would need to be undertaken prior to such development in compliance with the Environmental Impact Assessment (EIA) Regulations and Decision-Making Tools compiled as part of the SEA Process. Therefore, once a specific pipeline route has been determined during the project specific stage, consultation with the affected landowners and stakeholders will be undertaken as part of the Environmental Authorisation process. Therefore, there will still be an opportunity for stakeholders to be involved during the project specific stage.
60	Kobus Reichert	Gamtkwa Khoisan Council	Our interest in the matter is in terms of section 38 of the National Heritage Resources Act, no. 25 of 1999 as a community that needs to be consulted as part of a heritage impact assessment.	Response from the CSIR: This comment is noted. A section on Heritage Impacts is included in Part 4.2.7 of the Gas Pipeline SEA Report. Consideration of heritage resources will be required prior to any proposed gas pipeline development within the corridors. Consultation with communities affected by the development will be undertaken as part of the assessment, where required.

2. COMMENTS RECEIVED SUBSEQUENT TO THE RELEASE OF THE DRAFT SEA REPORTS

Note from the CSIR: It should be noted that following the release of the Draft SEA Reports, the structure of the report was amended. The responses provided to the comments received have referred, where applicable, to the revised report structure.

2.1. General and Administrative Comments

Note from the CSIR: It should be noted that general comments such as request for shapefiles, queries on accessing and downloading of information from the project website, and acknowledgement of receipt of documents have not been included in this section, as they are not related to the SEA Process itself.

Stakeholder Reviewer Name	Organisation	Date, Method of Submission, and Specific Chapter	Reviewer Comment	Response
Ronel Uys	City of Johannesburg	25 April 2019, Email General	Who should this e-mail be forwarded to?	**Response from the CSIR**: The email notification informing stakeholders of the release of the SEA Report and Specialist Assessment Chapters was sent to all registered stakeholders on the project database. The email was therefore sent to several representatives from the City of Johannesburg, including Ms. Nozipho Maduse, who is the nominated representative on the project Expert Reference Group and Project Steering Committee.
Charl De Villiers	Agri-Western Cape	9 May 2019, Email General	Can you kindly send me KMZ and shapefiles depicting the following phases of the proposed gas pipeline corridor: ▪ Phase 1a: Saldanha Bay to Ankerlig ▪ Phase 1b: Saldanha Bay to Mossel Bay ▪ Phase 2: Mossel Bay to Coega ▪ Phase 5: Abraham de Villiers Bay to Saldanha Bay ▪ Phase 6: Abraham de Villiers Bay to Oranjemund ▪ Shale gas and inland corridor: Saldanha Bay to Coega. All the corridors referred to above would traverse the Western Cape in part or in total. I have copied Mr Louis Wessels, Manager: Legal Services and Administration, Agri Western Cape, as well as various representatives of the Western Cape Department of Agriculture who would possibly be commenting on the agricultural assessment chapter of the SEA.	**Response from the CSIR**: The KMZ files of the Draft Refined Gas Pipeline Corridors were emailed to the representative on 9 May 2019. They were also uploaded to the Project Website in February 2018. With regards to the stakeholder database, various representatives of the Western Cape Department of Agriculture and Agri-Western Cape are currently registered on the project database. Additional members were added to the database, as requested.
Jan Smit	Western Cape Department of	9 May 2019, Email	Please include representatives from our Landuse Management team also in the communication.	**Response from the CSIR**: Representatives of the Western Cape Department of Agriculture were added to the database, as

Stakeholder Reviewer Name	Organisation	Date, Method of Submission, and Specific Chapter	Reviewer Comment	Response
	Agriculture	General		requested.
Mapule Malaza	Alfred Duma Local Municipality	16 May 2019, Email General	Kindly assist with clarity of what exactly is required from the Alfred Duma Local Municipality, Electricity Department concerning the above.	**Response from the CSIR**: The municipality was requested to provide comment on the Draft Specialist Assessment Chapters and SEA Report Chapters, which were made available on the project website for comment from 25 April 2019 to 24 June 2019. It was anticipated that the municipality would assist in aligning the proposed corridors with its developmental objectives.
Angila Joubert	Bergrivier Municipality	6 June 2019, Email General	Reference: Affected Municipalities_2_Final Document Piketberg to reflect at Bergrivier Municipality as this is the head office location for the municipality.	**Response from the CSIR**: The Affected Municipalities List uploaded to the website in October 2018 was updated to reflect Piketberg.
Nicola Botha	Private	6 June 2019, Email General	Can you do a study of Renergen who explore for onshore natural (LNG) and helium in the Welkom, Virginia and Theunissen regions. About project impact on soil, groundwater and air. Leaking of methane gas. And test the groundwater[18].	**Response from the CSIR**: Please refer to the response to Comment 38 in Section 1 of this chapter (i.e. Appendix A.7.10 of the Final SEA Report).
Charles Geldenhuys	Drakenstein Municipality: Electro Technical Services	7 June 2019, Email General	There will be no direct impact or influence to Drakenstein Municipality regarding these extension of corridors and therefore no comments at this stage, although it would be very interesting to monitor the rollout of this energy plan.	**Response from the CSIR**: Noted. The municipality does fall within Phase 1 of the Gas Pipeline Corridors, which has been assessed as part of the Gas Pipeline SEA.
Rhett Smart	CapeNature, Scientific Services	10 June 2019, Email General	CapeNature would like to thank you for the opportunity to comment on the project and would like to make the following comments. Please note that our comments only pertain to the biodiversity related impacts of the project. Due to current constraints, CapeNature will not provide detailed in-depth comment on the reports provided for comment, but will instead provide brief comment on the overall process and methodology and therefore have chosen to not comment in the forms provided.	**Response from the CSIR**: Noted, the comments submitted by CapeNature have been captured in this Comments and Responses Chapter and responded to accordingly by the SEA Project Team.
Rhett Smart	CapeNature, Scientific Services	10 June 2019, Email General	The approach undertaken is the same as for the previous strategic environmental assessments (SEAs) at a national level for wind and solar photovoltaic (PV) energy and electricity grid infrastructure (EGI). CapeNature provided detailed comments on these processes and therefore the same would apply in this	**Response from SANBI and the CSIR**: Noted, the methodology adopted for the Gas Pipeline and EGI Expansion SEA is very similar to that of the 2016 EGI SEA that was completed by the CSIR. SANBI was also involved in the 2016 EGI SEA as is the case in this current Gas Pipeline and EGI Expansion SEA. Therefore, there is continuity in terms of the project teams that have worked on previous SEAs.

[18] The stakeholder provided reference to the following website: https://www.google.com/url?sa=t&source=web&rct=j&url=https://m.engineeringnews.co.za/article/renergen-trades-at-up-to-a102-apiece-on-first-day-2019-06-06/rep_id:4433&ved=2ahUKEwi2_sTP5NTiAhXPJlAKHZVFAnUQxfQBMAB6BAgFEAQ&usg=AOvVaw3IW347RI-yPm30bKAhMqc7

Stakeholder Reviewer Name	Organisation	Date, Method of Submission, and Specific Chapter	Reviewer Comment	Response
			case. The process is most similar to that of the EGI whereby broad corridors have been identified within which the linear infrastructure can be aligned, with both environmental and technical constraints identified within the corridors.	Furthermore, the 2016 EGI Final SEA Report was used as a template, and updated where required for the current Gas Pipeline SEA. One of these updates includes a Risk Assessment section that was completed for the Gas Pipeline SEA. Therefore, any relevant comments made by CapeNature on the previous SEA have been considered in the current SEA. In addition, it should be noted that while similar datasets were used for the SEAs, the Gas Pipeline SEA had additional data sets that were identified as sensitive features that would not have been applicable to the other SEAs. The impact of the Gas Pipeline infrastructure is not the same as EGI, and consequently the sensitivity ratings are different within the SEA, which has an impact on how the corridors are designed.
Rhett Smart	CapeNature, Scientific Services	10 June 2019, Email . General	The corridors for the Gas Pipeline Network SEA encompass the majority of the Western Cape with only minor exclusions. With such broad corridors, there should be sufficient options to ensure that the very high and high sensitivity areas are avoided. The extension of the EGI SEA corridors however only encroach into the northernmost parts of the Western Cape in the West Coast District Municipality.	**Response from the CSIR**: Noted, Phases 5, 1 and 2, as well as the Inland Corridor for the Gas Pipeline SEA fall within the majority of the Western Cape. As noted in Part 3 of the Gas Pipeline SEA Report, 125 km wide corridors were assessed as part of the SEA and refined to 100 km wide. During the negative mapping task of the SEA, the SEA Team considered various environmental sensitivities (such as wetlands, estuaries, protected areas, nature reserves etc.) and engineering constraints (such as soil erosion, existing power lines, mining areas, and forestry areas etc.), to consider the respective impacts that the infrastructure will have on the environment and vice versa. The various features were ranked with sensitivity levels ranging from Very High to Low. The negative mapping informed the Draft Pinch Point Analysis, which led to the identification of the Draft Refined Corridors that were assessed by the specialists. The specialists also verified the initial ratings allocated during the negative mapping. The findings of the specialist assessments, comments raised by stakeholders, and findings of the demand mapping (including push and pull factors), were taken into consideration to inform the final pinch point analysis. The final corridors were reduced to 100 km wide and during the final pinch point analysis, the aim was to find the best 100 km wide corridors within the assessed area that has the most “low sensitivity” areas, where reasonably possible. Therefore, it is expected that there will be sufficient options to ensure that the very high and high sensitivity areas are avoided. However, where the very high and high areas cannot be avoided, mitigation measures and

Stakeholder Reviewer Name	Organisation	Date, Method of Submission, and Specific Chapter	Reviewer Comment	Response
				engineering solutions will be adopted to ensure that the impact on these areas are minimised as best as possible.
Rhett Smart	CapeNature, Scientific Services	10 June 2019, Email General	CapeNature reserves the right to revise initial comments and request further information based on any additional information that may be received.	**Response from the CSIR**: This comment is noted. However, it is important to note that any revised comments may be considered within reason and based on the timeframes for completion of the SEA Process.
Loyiso Mkwana, Simon Mafu, and Sinethemba Madondo	Gauteng Department of Agriculture & Rural Development (DARD), Environmental Policy, Planning & Coordination	19 June 2019, Email General	The Gauteng Department of Agriculture and Rural Development appreciate the opportunity afforded to our institution to partake in the review and commenting on the Phased Gas Pipeline Network Strategic Environmental Assessment (SEA). As the Provincial Department of Agriculture and Rural Development, we are mandated to ensure that the natural environment and its interdependent interactions are protected from degradation for the use of current and future generations. As such, the department must ensure the integration of environmental management considerations in the development of policy, plans and programmes at all levels of government. The opportunity to participate in the process of identifying the phased gas pipeline network provides us the opportunity to ensure the consideration of environmental management practice in national policy, thereby ensuring sustainable development in the country. The department therefore acknowledges the opportunity to influence the direction of development through the information and knowledge that is contributed to this process. The comments into the phased gas pipeline network SEA are attached as Annexure A. Should you have any further enquires on the comments made above, please do not hesitate to contact Mr. Simon N. Mafu, Environmental Officer Control: Environmental Policy, Planning and Coordination telephone number 011 240 3422 or email address simon.mafu@gauteng.gov.za	**Response from the CSIR**: This comment is noted.

Stakeholder Reviewer Name	Organisation	Date, Method of Submission, and Specific Chapter	Reviewer Comment	Response
Desmond D'Sa	South Durban Environmental Community Alliance	24 June 2019, Email General	**Background** The SDCEA (South Durban Community Environmental Alliance) is an environmental justice organisation based in south Durban. It is made up of 19 affiliate organisations, and has been active since its formation in 1996. It is considered successful for many reasons. One of which is that it is a vocal and vigilant grouping in terms of lobbying, reporting and researching industrial incidents and accidents in this area. It contributes to the struggle against Environmental Racism for Environmental Justice and Environmental Health. The SDCEA hosts activities such as awareness campaigns, workshops, protests and meetings; to discuss any facets of environmental justice, including community health, unsustainable development, industrial pollution and disproportionate governmental representations. **Introduction** There are numerous concerns that we have raised at the meeting hosted by you on Thursday 13th June 2019 as the CSIR, Department of Environmental Affairs and Department of Minerals and Energy regarding the potential Phased Gas Pipeline Network in South Africa Strategic Environmental Assessment. We are finding important discrepancies below in the processes thus far concerning these activities. We strongly object to the continuation of the Phased Gas Pipeline Network in South Africa.	**Response from the CSIR**: The concerns raised by the South Durban Community Environmental Alliance (SDCEA) have been duly noted and are acknowledged. Responses to the comments raised by the SDCEA have been captured in this Comments and Responses chapter. In addition, comments raised by the SDCEA at the Public Information Sharing Session held on 13 June 2019 in Durban were also acknowledged and responded to at the session and by way of post-meeting notes captured in the notes of the meeting, which were distributed via email to all meeting attendees on 8 July 2019. Furthermore, it is important to note that concerted efforts have been made by the National Department of Environmental Affairs (DEA) and the CSIR to implement the recommendations made by the SDCEA prior to and at the 13 June 2019 session. Additional detail regarding this is provided in the responses in this chapter (i.e. Appendix A.7.10 of the Final SEA Report), as well as the Consultation Process chapter (Appendix A of the Gas Pipeline SEA Report).
Desmond D'Sa	South Durban Environmental Community Alliance	24 June 2019, Email General	**Terms of Reference** The terms of reference for the appointment of the specialists and CSIR need to be made available to the public. It is crucial for us to know if these specialists and consultants are people of repute and credibility. We need to understand what process was in place in procurement to appoint these experts and consultants. How was this advertised! How many groups tendered for this project and short listed as communities are concerned with biasness and unfairness when no one follows due process and desk top studies are given as facts?	**Response from the CSIR**: The terms of reference for the Gas Pipeline SEA is clearly outlined in Sections 1.2 and 1.3 of Part 1 of the Gas Pipeline SEA Report, which were made available for public review from 25 April 2019 to 24 June 2019. The Scope of Work section of each specialist chapter that was released for public review contains background on the scope of the assessments. In addition, as requested by the SDCEA at the 13 June 2019 Public Information Sharing Session, a copy of the Specialist Terms of Reference was emailed to all attendees of the session on 8 July 2019.

Stakeholder Reviewer Name	Organisation	Date, Method of Submission, and Specific Chapter	Reviewer Comment	Response
				The details and expertise of the specialists appointed to undertake the studies were captured in Part 3 of SEA Report that was made available to stakeholders for review (Note that this is now changed to Part 4.1 of the Gas Pipeline SEA Report following the stakeholder review process). Specialists were appointed through an open Procurement and Tender Process under the CSIR Procurement Policy, which subscribes to the Preferential Procurement Policy Framework Act (Act 5 of 2000) (PPPFA) and its associated Regulations, and the Public Finance Management Act (Act 1 of 1999, as amended) (PFMA). One of the objectives of the CSIR Procurement Policy is to ensure that there is fairness, transparency, accountability and ethical conduct. The SDCEA are welcome to contact the CSIR Strategic Procurement Unit to obtain more information on the CSIR Procurement Policy. Where the estimated value of the study exceeded a certain threshold, a minimum of three written quotations were obtained from a range of specialists, based on previous assessments, recommendations from the Expert Reference Group and a pre-qualified database of specialists (which was also subjected to its own procurement process). Where the estimated value of the study fell below this certain threshold, one written quotation was sourced from recommended specialists. These independent specialists were required to complete a declaration of independence (Appendix B of the Gas Pipeline SEA Report), which serves as assurance that the findings of these studies are not influenced to benefit the developer.
Desmond D'Sa	South Durban Environmental Community Alliance	24 June 2019, Email General	**Role of Departments** We want a clear and definite response about the roles of the Department of Environmental Affairs and the Department of Minerals and Energy. The DEA is the guardians of the environment; and how will they approve the decision and consent on these gas network development if they are now wanting to be referee and player in this process which is a conflict of interest and it undermines their constitutional mandate and their responsibility. The Planning department was conspicuous by their absence and yet they should have been present in the public information meeting as well as the eThekwini	**Response from the CSIR**: To meet the objectives of the Integrated Resources Plan (IRP), Operation Phakisa and the National Development Plan (NDP), the National Department of Environmental Affairs (DEA), National Department of Energy, National Department of Public Enterprises, iGas, Transnet and Eskom have each contributed towards commissioning the SEA. The DEA has a mandate, which is to protect the environment to ensure that the ecology is maintained, and that people benefit from a clean environment, throughout developments. As requested by Mr. D'Sa, an independent facilitator was appointed to facilitate the 13 June 2019 meeting, provide translation as required, as well as to mediate where required. This was accepted by the South Durban Environmental Community Alliance (SDCEA) at the meeting on 13 June 2019 (held as part of the Public Information Sharing Sessions).

Stakeholder Reviewer Name	Organisation	Date, Method of Submission, and Specific Chapter	Reviewer Comment	Response
			Municipality who has massive role in announcing what development takes place in our country. At the public information meeting, most of the local officials who were present left after an hour indicating that this process was fait accompli or a pie in the sky. Why spend so much of money if this is the case.	The role of the DEA in this SEA Process is to ensure that Environmental Authorisations are not a cause for delay towards gas pipeline development within the corridors, whilst still maintaining the highest level of environmental integrity and rigour. The DEA therefore needs to approve and support the streamlined Environmental Authorisation approach that has been recommended as part of this SEA, and to ensure that their requirements in terms of what needs to be included in such assessment reports and Decision-Making are taken into consideration in the SEA in order to promote sustainable development. This does not undermine the mandate or responsibility of the DEA. Note that the case of streamlining the Environmental Authorisation process within certain approved geographical areas and the adoption of Standards is not a novel approach. Refer to the various responses provided below in this chapter that provide additional detailing on streamlining. During the project specific stage i.e. once specific infrastructure projects have been identified, the DEA or the relevant Provincial Environmental Department will serve as the Competent Authority for such developments within the corridors, once they are gazetted. This is standard, legal practice as per the National Environmental Management Act (Act 107 of 1998, as amended). The National Department of Energy is focused on ensuring that the vision of the energy mix and Gas Utilisation Master Plan (currently referred to as the Gas Master Plan) for South Africa is upheld by paving the way towards sustainable oil and gas developments. With regards to the comment regarding the eThekwini Municipality, kindly note that the municipality is well aware of the SEA Process. A representative from the Environmental Planning and Climate Protection Department of the Development Planning, Environment and Management Unit of the eThekwini Municipality serves on the Project Steering Committee (PSC) and Expert Reference Group (ERG) for the SEA. They have therefore been involved in discussions throughout the SEA Process. In addition, the municipality has attended all relevant Authority Outreach meetings held for the SEA in November 2017 and October 2018. Furthermore, all affected municipalities within KwaZulu-Natal, including the eThekwini Municipality, were invited to attend the Public Information Sharing Session on 13 June 2019. It should be noted that the content presented at the 13 June 2019 Public Information Sharing Session

Stakeholder Reviewer Name	Organisation	Date, Method of Submission, and Specific Chapter	Reviewer Comment	Response
				was the same as that presented at the 12 October 2018 Authority Meeting in Durban, which was attended by the eThekwini Municipality. They are therefore well aware of the findings of the specialist assessments etc. It is unclear which Planning department is being referred to by Mr. D'Sa, however it is important to re-iterate that the meeting that took place on 13 June 2019 was only one of several meetings that were carried out throughout the SEA Process. Various national departments, including the National Department of Rural Development and Land Reform and National Department of Planning, Monitoring and Evaluation, along with all affected Provincial Government Departments and affected district and metropolitan municipalities have been engaged with during this SEA. Refer to Appendix A of this Gas Pipeline SEA Report for a complete description of the Stakeholder Consultation Process undertaken during the SEA. The level of participation of other stakeholders that attended the Public Information Sharing Session on 13 June 2019 cannot be commented on as this is based on each individual's understanding of the project and their likelihood to raise queries. Nevertheless, the session was run in a transparent, all-inclusive and fair manner that enabled everyone present to participate, as desired.
Siphokazi Ncume	City of Johannesburg, Environment and Infrastructure Services Department	27 June 2019 General	**INTRODUCTION** The Gas pipeline strategic environmental assessment compiled by CSIR refers. The subject project is a phased gas pipeline. The phased gas pipeline corridor are founded on a set of nine phased gas pipeline routings based on a conceptual phased gas pipeline network identified by Phakisa Off-Shore Oil and Gas. The Gauteng Region forms part of Phase 3 Corridor.	**Response from the CSIR**: This comment is noted.
Janet Solomon	Private/ Vanishing Present Productions	10 June 2019, Email Part 1 – Gas Pipeline Page 14 Line 119	require not request	**Response from the CSIR**: The sentence referred to in Part 1 of the Gas Pipeline SEA Report is indicated below: ▪ "*These will, as a fundamental minimum, request for a level of site verification and site Environmental Assessment to be conducted.*"

Stakeholder Reviewer Name	Organisation	Date, Method of Submission, and Specific Chapter	Reviewer Comment	Response
				The recommendation made by the Commentator has been effected in Part 1 of the Gas Pipeline SEA Report.
Margaret Murcott	City of Cape Town, Environmental Management Department, Spatial Planning & Environment Directorate	14 June 2019, Email Part 1 – Gas Pipeline Page 38 Line 5	A higher resolution or the relevant feature layers for this map will be appreciated.	**Response from the CSIR**: The comment made refers to the Sunbird Energy Map. A higher resolution copy of the map has been provided in Appendix 1 of Part 1 of the Gas Pipeline SEA Report.
Bongani Sithole	City of Cape Town, Energy & Climate Change Directorate	19 June 2019, Email Part 1 – Gas Pipeline Page 18 Figure 11	Add transmission as follows; SEA for the phased transmission pipeline network	**Response from the CSIR**: It should be noted that the SEA Report does clearly indicate upfront that this SEA is for the assessment of gas transmission pipelines and does not include distribution and reticulation pipelines. Therefore, in many other places in the report, the project is referred to as follows: "*Strategic Environmental Assessment for the Phased Gas Pipeline Network in South Africa*".
Gerhard Gerber	Western Cape Department of Environmental Affairs & Development Planning (DEADP), Development Facilitation	24 June 2019, Email Part 1 – Gas Pipeline Page 3 Line 59 Figure 1	Provide a description for the acronyms CSP (Concentrated Solar Power) and PV (Photovoltaic)	**Response from the CSIR**: Figure 1 of Part 1 of the Gas Pipeline SEA Report has been amended accordingly. In addition, a list of acronyms has been provided in relevant parts of the SEA Report.
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Part 1 – Gas Pipeline Page 5 Line 2	Provide a description for bbl/d	**Response from the CSIR and iGas**: The abbreviation bbl/d refers to "barrels per day". It is the unit of measurement of oil output represented by the amount of oil produced in a day. To relate this to natural gas, 1 million scuffs (MMSC) of natural gas amounts to 172.3 barrels of crude oil equivalent. A list of acronyms has been provided in relevant parts of the SEA Report.
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Part 1 – Gas Pipeline Page 10 Line 6	Correct grammar. Amend sentence to read "to identify at what ~~gas cost~~ **cost gas** switching is an attractive option for.."	**Response from the CSIR**: Part 1 of the Gas Pipeline SEA Report has been amended accordingly.

Stakeholder Reviewer Name	Organisation	Date, Method of Submission, and Specific Chapter	Reviewer Comment	Response
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Part 2 – Gas Pipeline Page 22 Line 17 Table 5	Atlantis was designated as a Special Economic Zone in June 2018. It should be excluded from the Table of proposed SEZ's.	**Response from the CSIR**: Part 3 of the Gas Pipeline SEA Report (note this was previously Part 2) has been amended to refer to the Altantis Special Economic Zone (SEZ) as a designated SEZ that has already been gazetted (i.e. no longer proposed).
Ndivhudza Nengovhela	Gauteng DARD, Environmental Policy, Planning & Coordination	19 June 2019, Email Part 3 – Gas Pipeline Page 1	Traffic Impact Study - impacts on traffic on affected corridors and how are they going to mitigate this.	**Response from the CSIR**: It should be re-iterated that the entire 100 km wide corridors will not be developed with gas pipelines. During the operational phase, a 10 m wide servitude will be required for the gas pipeline. Furthermore, gas pipelines will only be constructed if there is a viable and approved business case and if there is a demand for such infrastructure. In addition, in the case of a gas pipeline, a guaranteed source of gas and customer is needed before a specific project can be identified. Traffic related impacts would mainly occur during the construction phase and would be of a temporary nature as a result of traffic volumes generated by the transportation of: ▪ construction personnel to and from site; and ▪ construction material and equipment to and from site. During the operational phase, traffic related impacts would be of low significance due to low traffic volumes generated as a result of maintenance activities. If the expected traffic volumes are expected to trigger the need for a Traffic Impact Statement or Traffic Impact Assessment in terms of the National Land Transport Act (Act 5 of 2009) then such an assessment will be undertaken during the project specific stage. These studies cannot be undertaken at the SEA level, as details would be required that can only be identified at the project specific stage, such as (but not limited to): ▪ where the route will be constructed based on the source of gas, customer and demand; ▪ what road network will be affected by the development; and ▪ what the estimated trip values will be. Notwithstanding the above, generic management actions relating to the movement of construction vehicles on site have been included in

Stakeholder Reviewer Name	Organisation	Date, Method of Submission, and Specific Chapter	Reviewer Comment	Response
				the Generic Environmental Management Programme (EMPr).
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Integrated Biodiversity Chapter – Gas Pipeline Page 1 Line 3	Page 1 of all the specialist studies refer to "*Draft v3 Specialist Assessment Report for Stakeholder Review*". The dates of the specialist assessment reports should be provided.	**Response from the CSIR**: A versioning table has been added at the beginning the relevant Specialist Assessment Chapters included in Appendix C of the Gas Pipeline SEA Report to note the dates of the chapters. A single versioning table has been included upfront of the Integrated Biodiversity Assessment chapter (Appendix C.1 of the Gas Pipeline SEA Report) to include relevant dates of the Biodiversity Assessments. The *"Draft v3 Specialist Assessment Report for Stakeholder Review"* has been removed accordingly.

2.2. Project Specifications

Stakeholder Reviewer Name	Organisation	Date, Method of Submission and Specific Chapter	Reviewer Comment	Response
Janet Solomon	Private/ Vanishing Present Productions	10 June 2019, Email Part 1 – Gas Pipeline Page 4 Line 21-23 Section 1.1	Please give us an estimate for the duration of this infrastructural development to be fully functional in delivering to the grid. Will there be any marine infrastructure/pipelines developed? Please name the potential marine developments and give their location. Please give us an idea of how long it will take for the pipeline to be functional, and then fully functional nationally. **Note from the CSIR**: Further clarification on this comment was obtained from this stakeholder on 27 August 2019. This clarification is noted below: These comments are generalized requests for further information: ▪ How long will it take in an estimate for this infrastructural development before it can contribute to electrical supply to the national grid? ▪ Apart from the existing PetroSA offshore line what other offshore pipelines are envisioned for the proposed Phased Gas Pipelines Network for RSA? Please give specific locations for these planned pipelines.	**Response from iGas**: It is important not to blur the 100 km wide corridors assessed as national pipelines to be built as a single natural gas pipeline infrastructure in a given time period. This is a forward planning process to identify environmentally sensitive areas should the proposed gas pipeline be developed. This SEA does not equal to ,or guarantee, construction. They are opportunities that exist and the desired phase may be built if there is a verified business case, i.e., a guaranteed supply of gas and a guaranteed customer for the gas. It is difficult to estimate timelines at this stage. However, it takes approximately 15 months to construct a 130 km pipeline section excluding landowner negotiation in terms of servitude requirements and other related authorisation(s). For a 300 km line, two to three years can be estimated if a single construction front is used, or less if multiple construction fronts are used. Offshore marine infrastructure and pipelines were not part of the scope of work of this SEA (all the assessed corridors are inland). The stakeholder is requested to contact the South African Oil and Gas Association (SAOGA) or the Petroleum Agency of South Africa (PASA) for any information on the specific locations for planned offshore pipelines.
Janet Solomon	Private/ Vanishing	10 June 2019, Email	How many open cycle gas turbine stations are there currently? How many new open cycle turbine stations are	**Response from iGas**: The current installed capacity for Gas / Diesel (including Open Cycle Gas Turbine (OCGT)) is 3 830 MW as

Stakeholder Reviewer Name	Organisation	Date, Method of Submission and Specific Chapter	Reviewer Comment	Response
	Present Productions	Part 1 – Gas Pipeline Page 3 Line 54 - 55	anticipated? How many have been converted to gas successfully?	identified in the Draft 2018 Integrated Resource Plan (IRP), as well as the promulgated Final 2019 IRP. From that capacity, Eskom power stations (Acacia, Port Rex, Gourikwa and Ankerlig) contributes a total capacity of 2 426 MW. However, according to the Draft IRP 2018 (DoE, 2018, Page 59) and the Final IRP 2019 (DoE, 2019, Page 54), the total nominal capacity of Ankerlig and Gourikwa decrease to 1 327 MW and 740 MW respectively. The Draft IRP 2018 (DoE, 2018, Page 59) and the Final IRP 2019 (DoE, 2019, Page 54) explains that the "difference between installed and nominal capacity reflects auxiliary power consumption and reduced capacity caused by the age of the plant". The Independent Power Producers (IPP) (Avon (670 MW) near Salt Rock in KwaZulu-Natal, and Dedisa (335 MW) in the Coega Industrial Development Zone (IDZ)) contribute 1 005 MW in terms of OCGT power generating capacity. Other generators include Sasol Synfuel Gas (250 MW) and Sasol Infrachem Gas (maximum of 175 MW) (DoE, 2018, Page 59; and DoE, 2019, Page 53). It is of importance to understand the firing system used by the above-mentioned gas turbines. The Eskom OCGTs and IPP Ankerlig OCGT in Atlantis, Avon IPP OCGT peaking power plant in KwaZulu-Natal and Dedisa IPP OCGT peaking power plant in the Coega IDZ are currently fired by diesel fuel. Eskom completed the conversion of both Ankerlig and the Gourikwa Power Stations to duel fuel burners (these power stations can now use both diesel and natural gas as fuel). However, their fuel supply system will also need to be converted to use gas. Possible anticipated gas turbine developments are identified in the DoE IPP Office Project Information Memorandum (PIM), which specifies 3000 MW of IPP Gas to Power with up to 1000 MW at Coega and the balance of 3000 MW at Richards Bay. These power stations may be Open or Close Cycle Gas Turbines.
Janet Solomon	Private/ Vanishing Present Productions	10 June 2019, Email Part 1 – Gas Pipeline Page 4 Table 2	1994 - Was there a public participation process involved in this licensing round?	**Response from the CSIR**: It is recommended that the stakeholder contacts the Petroleum Agency of South Africa (PASA) for additional information in this regard. This is out of the scope of work for this SEA.

Stakeholder Reviewer Name	Organisation	Date, Method of Submission and Specific Chapter	Reviewer Comment	Response
Janet Solomon	Private/ Vanishing Present Productions	10 June 2019, Email Part 1 – Gas Pipeline Page 5 Line 60-61	Please list the various port facility developments planned? Please list how far they are in development and anticipated completion date. Have the multi-purpose research vessels been acquired?	**Response from iGas**: It is recommended that the stakeholder consults with relevant stakeholders, as well as the Operation Phakisa website[19].
Janet Solomon	Private/ Vanishing Present Productions	10 June 2019, Email Part 1 – Gas Pipeline Page 5 Line 97-98	How far offshore will the proposed Sunbird subsea pipeline be? At what depth of water? How long might it be? Will it be flared? If so at what intervals? How will it be inspected for integrity assessments and how will recurring assessments for pipelines outside high-consequence areas be managed?	**Response from iGas**: Subsea pipelines are constructed by pipe laying barges that weld pipe sections together, inspect and coat the welds before lowering to the sea bed. During operation, the pipeline will be inspected by Pipeline Intelligent Gauges (PIGs). For additional information please refer to the Environmental Impact Assessment (EIA) for the Sunbird Energy Proposed Development of the Ibhubesi Gas Project, compiled by CCA Environmental (PTY) and SLR Consulting or contact Sunbird Energy.
Bongani Sithole	City of Cape Town, Energy & Climate Change Directorate	19 June 2019, Email Part 1 – Gas Pipeline Page 13 Line 121	In addition to viable business case must be extended to the initiatives that are not listed for phase 1 - 7. **Note from the CSIR**: Further clarification on this comment was obtained from the City of Cape Town on 3 July 2019. This clarification is noted below: The strategic environmental assessment for phased gas pipeline network in South Africa – defined phases from 1 to 7 (as per page 13 line 110 to 116). However, my view is that as the City of Cape Town undergoing the same route to link the LNG pipe at a transmission level (15 bar pressure). It is advisable that this exercise consider future developments that were not identified in this report, for example the City of Cape Town may make reference to such report and perhaps minimise the scope for its own environmental assessment.	**Response from the CSIR**: The City of Cape Town was consulted with during the demand mapping stage of the SEA to identify future energy intensive developments. In addition, the Draft Refined Gas Pipeline Corridor Phase 1 did include the City of Cape Town. Therefore, the needs of the city have been considered in the SEA. If the City of Cape Town needs to develop any gas pipelines within the gas pipeline corridors once they are gazetted, they will also be able to use the outputs of the SEA and undertake a streamlined Environmental Authorisation process (i.e. Generic Environmental Management Programme (EMPr) and Protocols). The outputs of the SEA will only apply within the corridors, once they are gazetted. Any development proposed outside the corridors will be subjected to a full Environmental Impact Assessment (EIA) Process as per EIA Regulations 2014, as amended.
Gerhard Gerber	Western Cape DEADP,	24 June 2019, Email	Whilst the opportunity exists to develop local mills for the fabrication of 3500km of pipeline and to ensure that	**Response from iGas**: Fabrication of natural gas transmission pipelines in South Africa is rather an issue of limited natural gas

[19] https://www.operationphakisa.gov.za/operations/oel/oilgas/pages/default.aspx

Stakeholder Reviewer Name	Organisation	Date, Method of Submission and Specific Chapter	Reviewer Comment	Response
	Development Facilitation	Part 2 – Gas Pipeline Page 7 Line 113 - 125	these mills reach international standards, it is most likely that all the work and equipment will be sourced from overseas. It is noted that the marketing exercise will not form part of the SEA, but the concern remains that the pipeline and associated infrastructure will largely be funded by tax payers. It is thus imperative that public consultation form part of the marketing exercise.	markets due to supply constraints. Currently, the major supplier of natural gas into the country is through the ROMPCO pipeline. Local companies fabricating pipelines are guaranteed to access the South African gas markets once there is a sustainable source of gas, and thus customers to sell these pipelines to. It is incorrect to assume "that the pipeline and associated infrastructure will largely be funded by tax payers". The developer (either private or state-owned) will fund their transmission pipelines and associated infrastructure based on a viable and approved business case. If iGas as a Chapter 2 government company (SOC) is the developer, iGas will fund the project via iGas equity (own capital) and project finance (bank loans). iGas will then finance the specific phase of the pipeline and recover its investment by charging a tariff for the transportation of the gas. The tariff is regulated by the National Energy Regulator of South Africa (NERSA). It is imperative to note that iGas is a cash positive state-owned company after paying back its loans to invest in the ROMPCO pipeline. Using the same business rationale, they are able to fund similar projects. If any phase is to be built by any developer, they will ensure that the affected communities are well aware of these developments through marketing.
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 2 Identification Of Gas Pipeline Corridors	Would the gas pipeline/s potentially be routed via mountain passes and, if so, which ones? Large volumes of agricultural produce are ferried by road, and construction-related bottlenecks in mountain passes, for example, could impose significant costs on affected producers and transport logistics. If existing road, rail and power line infrastructure were to preclude using mountain passes as pipeline routes, would pipelines be laid through mountainous areas and, if so, would they still be laid in trenches?	**Response from iGas**: The location of pipeline routes is not known at this stage. They can only be determined later, during the project specific stage, based on demand, if there is a viable business case and subsequent to servitude negotiations with the affected landowners. Areas with steep slopes have been considered in the engineering constraints mapping. Sensitive areas and areas where it would be difficult to construct a pipeline from an engineering and environmental perspective, e.g., mountain passes will be avoided as best as possible. If the proposed pipeline route avoids the high sensitivity environmental features, then it is likely that it will intersect with high sensitivity engineering constraints, and this would require an engineering solution. The decision will be based on costs and operating risks. The norm is to put all lines in trenches and thus they will be less exposed to the ground surface. Other pipeline installation techniques will be decided on during the project

Stakeholder Reviewer Name	Organisation	Date, Method of Submission and Specific Chapter	Reviewer Comment	Response
				specific stage.
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 2 Identification Of Gas Pipeline Corridors	How is it proposed that a gas pipeline would be taken across the deep river gorges that cut through the Garden Route and Tsitsikamma coastal forelands (e.g. the Gouritz, Maalgate, Gwaing, Groot, Bloukrantz and Van Stadens rivers)? Would pipeline routes have to skirt these features by being located further to north, such as via the Langkloof in the case of Phase 2, Mossel Bay-Coega?	**Response from iGas**: The final routes within the 100 km wide corridors are yet to be determined. The features mentioned are rated as both high sensitivity environmental features and engineering constraints. A likely alternative within the Phase 2 corridor is via the Langkloof, avoiding the coast and associated deep river gorges.
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 2 Identification Of Gas Pipeline Corridors	Would pipeline-laying require blasting, either to remove rocky obstacles or excavate trenches in rocky environments such as associated with the extensive sandstone beds that occur inland of the Nuweveld Mountains in the vicinity of Sutherland and Fraserburg?	**Response from iGas and Sasol**: The rocky obstacles mentioned are engineering constraints and will be avoided to the best extent possible. If unavoidable, excavators will be used to remove rocks and boulders. Blasting will be used as an absolute last resort after all other alternatives have been exhausted. In the case of the ROMPCO pipeline, blasting was not applied in Mozambique due to the difficulty and sensitivity around importation of explosives into Mozambique. A trenching machine was used to cut through the calcrete (softer rock) sections.
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 2 Identification Of Gas Pipeline Corridors Page 8 Line 1 - 7	**Access Roads** Who is responsible for the maintenance of access roads, and would access roads fall within the bounds of servitude agreements?	**Response from iGas and Sasol**: Access roads constructed specially for the pipeline will be maintained by the pipeline operator and will fall within the bounds of the servitude agreements. With reference to the construction of the ROMPCO pipelines, the ROMPCO Pipeline Operator was responsible to maintain the access road (dirt roads) due to the road deterioration caused by project pipe trucks and other heavy loads. The operator also applied dust suppression mechanisms on access roads that were routed in proximity to communities. An agreement to use and maintain access roads were settled with national road authorities prior to the construction tender stage as it was scoped into the construction contractor's responsibility. It was not included in the servitude agreements. The servitude agreements only cover the maintenance service roads.
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 2 Identification Of Gas Pipeline Corridors	**Servitude Negotiations** *(Also see Agri Western Cape comment on 'Gas Pipeline Development and Agricultural Consent', Agricultural Assessment, pp 10 and 11 and lines 127-148 continued as lines 1 - 23.)*	**Response from iGas**: The suggestion is noted. However, it **MUST** be noted that the **example**, if provided, will not be binding on any party wishing to develop a gas transmission pipeline. It will only serve as an example, and the actual agreement will be finalised between relevant parties.

Stakeholder Reviewer Name	Organisation	Date, Method of Submission and Specific Chapter	Reviewer Comment	Response
		Page 8 Line 58 - 69	The SEA should include, for the purposes of external legal review, an example of a servitude agreement relating to a gas pipeline or, alternatively, Eskom power line or renewable energy facility. Alternatively, such a draft agreement can be distributed among members of the project steering committee (viz. including Agri Western Cape and AgriSA). Will servitude agreements make provision for contractually-binding safety exclusion zones around vulnerable locations such as farmsteads and employee accommodation, and enforceable buffer zones between the proposed pipeline routes and farm dwellings?	While the servitude agreements are still to be developed, the limitations will be on permanent structures within the safety zones, and not necessarily on any activity within that zone. **Response from the CSIR**: It is important to also point out that a servitude agreement is not generic. Each project will have specific requirements and different conditions that might be included in the agreement. Some details of the agreement might also include confidential landowner information. In addition, reviewing the servitude agreement is not believed to be a significant factor that will change the outcome of the SEA Process. Such a review can be undertaken during the project specific stage, if necessary.
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 2 Identification Of Gas Pipeline Corridors Page 8 Line 102 - 103	**Borrow Pits** Will existing borrow pits be used, if available, or will the identification and development of candidate sites be subject to prospecting and mining application procedures as prescribed by the MPRDA 28/2002?	**Response from iGas and Sasol**: Existing borrow pits will be used to the extent that they are within an economical distance to the construction site. Beyond this, new borrow pits will be identified in accordance with the relevant legislation (application for mining rights), as required. This falls outside of the scope of this SEA.
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 2 Identification Of Gas Pipeline Corridors. Page 8 Line 106 – 107	**Fencing and Access** Will agreements with landowners w.r.t. fencing and access be incorporated in the servitudes agreements, or will these be subject to other forms of contact? It would be very useful for stakeholders if the SEA can identify and summarise the different types of agreement (if this were to be the case) that the gas pipeline developer/owner would enter with landowners as such agreements may related to substantially different aspects of such a project, e.g. servitudes, compensation for damages, access and fencing, and obligations and undertakings relating to site preparation, construction and post-construction remediation.	**Response from iGas and Sasol**: The suggestion is noted. However, to the extent possible and to limit the number of contracts, all agreements with landowners will be included within a single servitude contract. This was not applicable in Mozambique for the construction of the ROMPCO pipeline because the government owns all the land, but it is recommended to have it negotiated as part of the servitude agreement with each land owner. Control over access gates are critical to avoid claims from land owners for property damages or losses.
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 2 Identification Of Gas Pipeline	**Construction Camps and Work Fronts** The number and concentration of construction personnel at each 'work front' need to be clarified.	**Response from iGas**: The number of personnel at a construction camp is dependent on the remoteness of the specific camp. Experience indicates that for a very remote camp site, personnel on site averages between 250 and 300 and may peak as high as 500. Moreover, there are about 18 work teams or work fronts

Stakeholder Reviewer Name	Organisation	Date, Method of Submission and Specific Chapter	Reviewer Comment	Response
		Corridors. Pages 8 – 9 Line 143 – 148 and Line 1 - 28		active during a pipe laying project and they are following each other in a specific logical sequence. Some activities are fully mechanical and others demand more human interaction. The number of people per work front varies from 8 to 30 people.
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 2 Identification Of Gas Pipeline Corridors. Pages 8 – 9 Line 143 – 148 and Line 1 - 28	Construction Camps and Work Fronts What is meant by 'peak times', and what is the duration of such a 'peak time'?	Response from iGas: The 'peak time' refers to the peak construction period with the highest number of simultaneous construction activities requiring the largest work force. The work force grows as the pipe construction activities increases during the first six months and tapers down as the activities of the starting work fronts gets completed.
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 2 Identification Of Gas Pipeline Corridors. Pages 8 – 9 Line 143 – 148 and Line 1 - 28	Construction Camps and Work Fronts Reference is made to ca. 30 people who would be on site during pipeline construction. Would these people be at the 'work front', and would they have to be transported to and from the construction camp on a daily basis, entailing round trips of up to 100 km a time? Where would the 'average of 300 personnel' be deployed during construction?	Response from iGas: An average of 250 – 300 people will be on site, peaking at about 500, sometimes more, as described above. While reference is made to a work front, there is no single point where all construction activity is concentrated at any given time. Rather, activities such as surveying and staking, front-end clearing, grading, pipe stringing and bending, welding and weld inspection, trenching, field joint coating and inspection, pipe lowering, padding and backfilling and clean up and restoration are spread out across several kilometres. All of these construction personnel must be transported from and to the construction camp, entailing round trips of up to 100 km on a daily basis. Travel time can be quite long and counts as working hours if not agreed with workers upfront to separate travel time and working time.
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 2 Identification Of Gas Pipeline Corridors. Pages 8 – 9 Line 143 – 148 and 1 - 28	Construction Camps and Work Fronts If it takes approximately six months to lay 100 km of pipe, would this be the length of time that construction teams could be accommodated on individual farms?	Response from iGas: This would be the length of time that construction workers are accommodated at the Construction Camp, which will be on one farm along that 100 km stretch of pipeline, not each farm. However, the construction workers will work across all affected farms during that 6 month period.
Brian Jones	City of Cape Town, Energy & Climate Change	19 June 2019, Email	Was the new brulpadda gas find considered in the study?	Response from the CSIR and iGas: A gas find such as the gas condensate discovery made by Total in February 2019 on the Brulpadda well (Block 11B/12B approximately 175 km off the

Stakeholder Reviewer Name	Organisation	Date, Method of Submission and Specific Chapter	Reviewer Comment	Response
	Directorate	General		southern coast of South Africa) has significance for both the PetroSA Mossel Bay's gas-to-liquids refinery (GTLR), as well the Eskom Gourikwa Open Cycle Gas Turbine (OCGT). It may also promote developments in the Coega Industrial Development Zone (IDZ). However, it is important to note that a gas pipeline will only be developed according to economic viability i.e. there needs to be a source of supply and a guaranteed offtake comprising a viable business case. If there is more gas than required by the PetroSA GTLR and the Gourikwa OCGT, it can be transported via Phase 1b to Cape Town and Saldanha and/or Phase 2 to Coega. Refer to Parts 1 and 2 of the Gas Pipeline SEA Report for additional information.
Edgar Capes	City of Cape Town, Energy & Climate Change Directorate	19 June 2019, Email General	Will City of Cape Town have access to the pipeline or only Transnet?	Response from the CSIR and iGas: End users have been considered in the demand mapping exercise and these are energy intensive users such as industries. This SEA does not assess the identified corridors for a specific company or municipality. A gas pipeline will only be constructed if there is a viable business case (demand for gas and source of gas). Therefore, the City of Cape Town or any other private investor or developer may develop a pipeline within the identified corridors subject to compliance with the necessary regulations and legislation, including the Decision-Support Tools compiled as part of the SEA. Note that this SEA assesses transmission pipelines (high pressure pipelines > 15 barg) only. Distribution pipelines (>2 barg medium pressure ≤ 15 barg) and reticulation pipelines (low pressure ≤ 2 barg) do not form part of this SEA as distribution and reticulation pipelines are provisioned to be near settlements whereas transmission pipelines are further away from populated areas.
Shaazia Bhailall	City of Cape Town, Energy & Climate Change Directorate	19 June 2019, Email General	Has the pipeline engineering been predetermined or will the SEA determine the engineering? Where below/above ground seems more feasible given the surrounding conditions this should be seen as an option?	Response from iGas: This SEA has identified both environmental and engineering constraints. The engineering constraints are detailed in Part 3 of the Gas Pipeline SEA Report from a national and corridors perspective. A range of engineering constraints have been considered to inform the final corridor refinement process. Detailed engineering studies will be undertaken during the project specific stage once a specific gas pipeline route has been identified. With regards to the above- or below-ground placement of the gas pipeline, it is important to note the safety and security risk of installing the pipelines above ground in South Africa. If the pipeline cannot be placed underground in some areas within the corridors,

Stakeholder Reviewer Name	Organisation	Date, Method of Submission and Specific Chapter	Reviewer Comment	Response
				then such areas will mostly likely be avoided when proposing feasible paths.
Shaazia Bhailall	City of Cape Town, Energy & Climate Change Directorate	19 June 2019, Email General	Is road transport of gas or containerised also being considered in the study should some places not have distribution networks?	**Response from iGas**: No, the consideration in this SEA is that of transmission pipelines (high-pressure gas pipelines) only, virtual networks via road or rail, distribution and reticulation pipelines are not considered. Note that gas pipelines are considered the safest and most efficient and reliable mode of transporting natural gas.
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Integrated Biodiversity Chapter – Gas Pipeline Page 16 Line 2 - 6	What is referred to by gas pipeline infrastructure (does it include piping, pumping units, concrete and steel supports, culverts, etc.)? ▪ Details must be provided regarding the power requirements for these pipelines (electrical or generators).	**Response from iGas**: Please refer to Section 2.3 of Part 2 of the Gas Pipeline SEA Report for details on the components included as part of this SEA. The infrastructure includes the buried pipe, buried block valves every 30 kilometres, above ground pigging stations and all other culverts etc. required for the pipeline to traverse the landscape. Pipelines are steel and/or concrete supported. These infrastructures are not energy intensive during operation. However, along the path of the pipelines and depending on the length of the pipeline, a booster or compressor station may be required to compress the gas back up to the inlet pressure of about 50-60 barg. The customers targeted are often large industrial users (energy intensive). Compressor stations (which are excluded from this SEA) would require energy (about 0.07 million GJ per station per annum).
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Integrated Biodiversity Chapter – Gas Pipeline Page 79 Line 2 - 4	For a short- to medium-term project like the supply pipeline from Saldanha to Ankerlig (Atlantis), a permanent pipeline structure is needed. What would happen to this pipeline once the gas has been depleted? Would the decommissioning result in the removal of the subterranean infrastructure? What are the implications of leaving the pipeline underground after it is no longer being used? What are the legal responsibilities of the pipeline owners?	**Response from iGas**: Pipeline projects require large CAPEX to be developed with future projections indicating positive returns of investment. To develop a gas pipeline, the business case should be evident and emphasised that the owners will utilize the asset for as long as possible. Natural gas transmission pipelines may operate for up to 50 – 70 years to ensure maximum utilization of the asset through maintenance. The said project from Saldanha to Ankerlig should prove to be sustainable before development. If for any reason gas is depleted during the course of the project (which is highly unlikely for a well-planned project), the owner may source an alternative source of gas, which will utilize the same infrastructure. If this is not possible, then decommissioning and rehabilitation of the infrastructure and the land respectively will be undertaken. During decommissioning, the pipeline must be formally decommissioned and hydrocarbons removed and replaced with

Stakeholder Reviewer Name	Organisation	Date, Method of Submission and Specific Chapter	Reviewer Comment	Response
				air. However, the pipeline could potentially not be dug up and removed in totality; whilst major valve installations and pigging stations will be removed, i.e., all above ground installations and installations that can be accessed from above ground e.g. valve pits etc. will be removed. However, the activities during decommissioning will also be based on the requirements of the servitude agreement; and it must be noted that a servitude registered in the pipeline owners name does have value and a business decision will be made at the time as to the future of the pipeline. For example, if the pipeline is old and corroded and no longer safe to operate but is still needed, then it may be replaced by a new pipeline, either alongside the existing pipeline or by digging up and removing the existing pipeline and replacing it with a new one. If business interruption is an issue, then it is likely that the new pipeline will be constructed alongside the existing one and that the old one will be decommissioned as soon as the new is commissioned. The implication of leaving the pipeline underground after it is no longer being used, is that, as with any metal fabrication, without use and proper maintenance it will eventually corrode. Without a positive pressure from inside the pipe it will eventually collapse and leave sinkholes above ground. Furthermore, when applying for an operator licence with the National Energy Regulator of South Africa (NERSA), timeframes and conditions will be stipulated in the licence, including any decommissioning requirements. NERSA also looks at the value of the pipeline at the time of decommissioning, and the licence conditions will also be monitored in terms of how they are enforced and funds available for decommissioning will always be considered. Decommissioning is costly but will be effective from the date determined in the license. The infrastructure and its associated features may be sold back to the market provided premature termination of the project. Pipeline owners are legally monitored by the NERSA, and they must abide to regulations as defined in the ***Gas Act: Piped Gas Regulations.*** As provided in section 34 of the act:

Stakeholder Reviewer Name	Organisation	Date, Method of Submission and Specific Chapter	Reviewer Comment	Response
				"Licensees shall, not less than six (6) months prior to termination, relinquishment or abandonment of licensed activities submits to the Energy Regulator a plan for approval for the closure, removal and disposal (if applicable) of all installations relating such Licensed activities. The plan shall include information on alternatives investigated for further use and alternative disposal of the installations, the decommissioning activities, site clean-up, removal and disposal of dangerous material and chemicals and an environmental impact assessment of the termination and abandonment. The Energy Regulator's approval of the plan may be subject to conditions as determined by the Energy Regulator. Subject to the provisions of section 10 of the National Energy Regulator Act, the Energy Regulator may amend the plan as it deems fit." Kindly refer to other sections pertaining **Rehabilitation of Land** from the Gas Act for further elaboration.
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Integrated Biodiversity Chapter – Gas Pipeline Page 154 Line 6 - 8	Pigging stations and similar infrastructure have a risk of vandalism or theft of components. This increases the risk of explosions or the release of potential dangerous plumes into the atmosphere. Is there a specific security plan being developed to address this concern?	**Response from iGas**: Block valves will be placed every 30 km along the pipeline route aboveground in order to automatically isolate a section of the pipeline during unexpected ruptures and major leaks. In addition, the pigging stations themselves also have block valves to isolate the above ground sections from the underground pipeline. Pipeline markers will be installed every 1 km along the route aboveground to indicate the presence of the pipeline so that future developers and adjacent land users are aware of its location. The following interventions may also be considered from a safety perspective during the project specific stage: i.e. installing a detection system (motion and vibration sensors); an intervention system (feedback device or staff intervention); and a legal system (prosecute those involved if is an act of sabotage).
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Nama Karoo, Succulent Karoo and Desert Biomes Chapter – Gas Pipeline	Although not a focus of this biodiversity study, section 4.2.4.2 does refer to mining and impacts that have a socio-economic value; however, the overall economic benefits of the gas pipeline SEA must be carefully evaluated. Part 2 (Project Description) indicated that the skills and pipeline material will be sourced from foreign countries, thus creating limited employment opportunities for local communities in the process. Is it not possible to manufacture these pipes locally? With the SEA still to be	**Response from iGas**: Fabrication of natural gas transmission pipelines in South Africa is rather an issue of limited natural gas markets due to supply constraints. Currently, the major supplier of natural gas into the country is through the ROMPCO pipeline. Local companies fabricating pipelines are guaranteed to access the South African gas markets once there is a sustainable source of gas, and thus customers to sell these pipelines to. If the government or any other manufacturing company sees an opportunity to invest in pipe manufacturing, they shall do so

Stakeholder Reviewer Name	Organisation	Date, Method of Submission and Specific Chapter	Reviewer Comment	Response
		Page 18 – 19 Section 4.2.4.2	completed, there is sufficient time to train local people to manufacture pipes in welding and installation as per the specified requirements.	provided that there is strong demand. However it is important to note that this proposition is a major project on its own and has high risks associated with it. In Mozambique, for the first loop line as part of the ROMPCO Pipeline development, the pipes were coated at the local pipe mill but the quality and time delays were problematic and for the second loop line, the pipes were imported fully coated from pre-qualified pipe mills. Note that the local Mozambican mill was not ready at the stage of pre-qualification and during the tender stage. As part of the development of the Phased Gas Pipeline Network, the Department of Trade and Industry (Dti) has been engaged on the development of local pipe mills to bring them up to international standards and every effort will be made to utilise them, provided that quality is not compromised.
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Nama Karoo, Succulent Karoo and Desert Biomes Chapter – Gas Pipeline Page 25 Line 29	High maximum daily temperature in the Desert Biome can exceed 48°C. ▪ What is the typical temperature of gas in the pipeline, and how will temperature fluctuations affect expansion and contraction of the piping system? ▪ What is the risk of explosive damage to the pipeline? ▪ What is the normal life expectancy of the steel pipeline and are there any maintenance requirements, that may require excavation?	**Response from iGas**: The gas temperature is around 20˚C and after compression; the gas is normally cooled from temperatures of up to 55˚C back down to 20˚C. Once underground (below 1 m depth), the temperature cools naturally to the ambient ground temperature. Below ground, at a minimum depth of 1 m, the ambient ground temperature does not vary to the extent that it will cause expansion and contraction of the pipeline. The ground therefore stabilizes the temperature of the outside pipe. Above ground, the pipeline has expansion bends to control material stresses caused by expansion. However, the above ground sections of pipe are limited. Explosive damage to the pipeline can result from: ▪ External factors such as vandalism or accidental damage to the pipe; and ▪ Internal factors such as corrosion. It is therefore critical that the location plans for gas pipelines be up to date and available within all municipality planning departments and that an adequate security plan be implemented. Proper inspection (inline inspection with intelligent gauge equipment PIGs) and maintenance of the pipeline should ensure

Stakeholder Reviewer Name	Organisation	Date, Method of Submission and Specific Chapter	Reviewer Comment	Response
				the integrity of the pipeline from a corrosion perspective. Excavation will be required to address corrosion problems and thereby maintain the integrity of the pipeline. Steel transmission pipelines may be functional underground for about 50-70 years depending on maintenance plans/frequency of that specific pipeline.

2.3. Location of the Corridors, Environmental Sensitivities, Engineering Constraints, and Pinch Point Analysis (Corridor Refinement)

Stakeholder Reviewer Name	Organisation	Date, Method of Submission and Specific Chapter	Reviewer Comment	Response
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 2: Identification of Gas Pipeline Corridors Page 3 Line 17 – 58	If topographical and geotechnical constraints were factored into the elimination and refinement of routing options in the course of Tasks 2 and 3, these have not been presented for review.	Response from the CSIR and SANBI: Task 2 of Phase 2 involved negative mapping to determine areas of environmental sensitivities and engineering constraints. During this phase, wall to wall sensitivity maps were compiled to determine areas where gas pipeline infrastructure is likely to have a negative impact on the environment (environmental sensitivities) and areas where the environment are likely to have a negative impact on gas pipeline infrastructure (engineering constraints). This mapping exercise indicated areas to be avoided (Very High sensitivity), areas which are sensitive for various reasons (High-Medium sensitivity), and areas which demonstrate Low sensitivity. Various environmental features (Table 2 of Part 3 of the Gas Pipeline SEA Report) and engineering constraints such as slope, geology, seismicity, gully erosion, soil erodibility, and mining areas (due to soil and pipeline stability) (Table 3 of Part 3 of the Gas Pipeline SEA Report) were considered in the analysis. Topographic and geotechnical constraints were therefore included in the constraints matrix. These features were then used during Task 3 of Phase 2, which entailed a Corridor Refinement or Pinch Point Analysis Process (as described in Part 3 of the Gas Pipeline SEA Report), whereby the corridor positions were refined or shifted to minimise the presence of environmental sensitivities and engineering constraints inside of the corridors, where applicable. It is also important to note that a Geotechnical Assessment will be undertaken during the project specific stage once a project has been identified. Additional feedback on engineering and environmental features used in the wall to wall mapping updates and the Final Pinch Point Analysis is captured in Part 5 of the Gas Pipeline SEA Report.

Stakeholder Reviewer Name	Organisation	Date, Method of Submission and Specific Chapter	Reviewer Comment	Response
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 2: Identification of Gas Pipeline Corridors Page 14 – 19 Table 1	Table 1 (pp 14 - 19) simply identifies studies that were consulted but no other detail is provided.	Response from the CSIR and SANBI: Tables 2 and 3 of Part 3 of the Gas Pipeline SEA Report capture the environmental and engineering constraints considered in the negative mapping, based on the information that would need to flag environmental sensitivities or areas of opportunity. The purpose of these tables is to list the datasets used in the wall to wall negative mapping and draft pinch point analysis. These were not elaborated on as they were only to give an indication of the data set used, where it was sourced from and its allocated sensitivity level and buffer (as applicable). These datasets are not a list of studies, although some may be the result of studies. A rationale around the reasoning behind the original assigned sensitivities used to inform the Draft Pinch Point Analysis has been provided in Part 3 of the Gas Pipeline SEA Report. Furthermore, additional information is provided in Parts 1 and 2 of the Gas Pipeline SEA Report regarding the construction and operational phases of the gas pipeline, which relate to engineering constraints, and where applicable additional feedback on specific engineering constraints have been provided in the report, such as the distance that needs to be maintained between gas transmission pipelines.
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 2: Identification of Gas Pipeline Corridors Page 20 – 21 Tables 3 and 4	Tables 3 and 4 (environmental and engineering constraints respectively) provide spatial depiction of consolidated 'sensitivity' values which does not support review of the contribution of each category or factor to such sensitivity, in a particular place. This is not helpful. Also see comment below w.r.t. the Draft pinch-point analysis.	Response from the CSIR: Table 4 of Part 3 of the Gas Pipeline SEA Report provides a description on how each sensitivity level for the environmental constraints analysis has been defined and interpreted. Table 5 of Part 3 of the Gas Pipeline SEA Report provides the same information for the engineering constraints analysis. For example, in the environmental constraints analysis, National Parks and Critical Biodiversity Areas have been rated as extremely sensitive to the negative impact of gas pipeline infrastructure development. In addition, these areas have very high conservation value and hold legal protection status. Therefore, these areas have been rated with a Very High sensitivity level. The negative mapping was done at a national level in a conservative manner. It was not possible to allocate each feature a specific sensitivity level (as defined in Tables 4 and 5 of Part 3 of the Gas Pipeline SEA Report) in a particular place. This was not the intention of the negative mapping. The aim of the negative mapping was to identify environmental and engineering constraints relative to gas pipeline development and rate these constraints on a scale of very high to low on a national (wall to wall) scale, so that they could be used to inform the Draft Refined Corridors that were assessed by the specialists. Thereafter, the specialists reviewed the wall to wall analysis and either increased or decreased the sensitivity levels based on their professional knowledge and expertise. Furthermore, the Terrestrial Ecosystems and Species Biodiversity Assessments were undertaken per biome by specialists that have in depth knowledge of the biome and affected environment. For example, during the negative mapping, the

Stakeholder Reviewer Name	Organisation	Date, Method of Submission and Specific Chapter	Reviewer Comment	Response
				CSIR and SANBI rated "All wetlands" as Very High sensitivity, but in the Wetlands and Rivers Assessment (Appendix C.1.7 of the Gas Pipeline SEA Report), various wetlands were considered and allocated a sensitivity level accordingly based on the expertise of the specialist: ▪ Critically Endangered wetlands and Irreplaceable CBAs (aquatic) – Very High sensitivity; ▪ Ramsar wetlands, KZN priority wetlands, Endangered or Vulnerable wetlands, Optimal CBA (aquatic) – High sensitivity; ▪ National Freshwater Ecosystem Priority Area (NFEPA) wetlands, Near Threatened wetlands and Ecological Support Area (ESA) (aquatic) – Medium sensitivity; and ▪ probable wetland, non-NFEPA wetlands, least threatened wetlands, Other Natural Areas (ONA) (aquatic), formally protected aquatic features – Low Sensitivity. Therefore, the Specialist Assessment Chapters (Appendix C) of the SEA Report can be consulted for additional information on the contribution of each category or factor to an allocated sensitivity level, in specific biomes and ecosystems. In addition, it is important to note that sensitivities will also be assessed in a particular place during the project specific stage, once individual pipeline routes have been identified.
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 2: Identification of Gas Pipeline Corridors Page 22 – 23 Line 40 -99 Line 1 - 49	<u>Draft Pinch Point Analysis</u> It will be of great assistance to stakeholders if the individual layers/factors that contributed to the pinch-point analysis could be made available separately w.r.t. future opportunities to comment on the SEA. This information is currently concealed as a result of the synthesis of information, which makes it impossible to know precisely which factors contribute to reducing the environmental/technical suitability of particular corridor options. Would it, for example, be feasible for the CSIR to make such disaggregated information available for specific localities, on request?	<u>Response from the CSIR and SANBI</u>: Most data used in the Draft Pinch Point Analysis as part of the SEA Process, is publically available information and can be made available on request. Some data however, mostly the mining data and location of existing pipelines remains confidential and cannot be distributed.

Stakeholder Reviewer Name	Organisation	Date, Method of Submission and Specific Chapter	Reviewer Comment	Response
Desmond D'Sa	South Durban Environmental Community Alliance	24 June 2019, Email General	**Research** The research done by the CSIR was inadequate. We will not accept desktop studies. CSIR needs to go to the communities and conduct actual research. We want to see evidence that this development will actually create jobs. Areas generally targeted for developments and pipelines are generally black, low income areas which are absolutely discriminate, therefore this SEA needs to be specific in terms of the actual areas it is targeting.	**Response from SANBI and CSIR**: The Specialist Assessments undertaken were largely desktop based given the strategic nature of this assessment which entails the assessment of several 125 km wide corridors that span a great extent of South Africa (note that the entire corridor will not be developed with gas pipelines). Therefore, this assessment relied on existing data as well as experience gained by specialists on field work undertaken across South Africa on other projects. Once the corridors are gazetted and should there be a viable business case for the development of such infrastructure, the developer will select the best routing for the pipeline within the corridors based on the pre-assessment undertaken as part of the SEA. The SEA is a **policy process** that precedes and informs the project specific phase. The SEA Process has been undertaken in a transparent manner and details of the stakeholder and public participation processes undertaken during the SEA are captured in Appendix A of the Gas Pipeline SEA Report. As noted above, any gas pipeline development within the gazetted corridors would require a standard Environmental Authorisation process prior to development, including ground-truthing of the proposed route, and further consultation with the affected communities will therefore be undertaken at the project specific scale. Therefore, desktop level assessments are well recognised internationally and suitable for this strategic level assessment. As part of the SEA Process, the potential employment opportunities during the construction phase, the exact transhipment/distribution points or employment likely at these points and relative quantity and cost of gas cannot be specified, as this information is project specific. This level of information would only be available on a project specific basis. Therefore, the Settlement Planning, Disaster Management and related Social Impacts Assessment (Appendix C.3 of the Gas Pipeline SEA Report) includes the following assumptions in this regard: ▪ Limited short term local employment opportunities will be created, mainly during construction; ▪ Limited long term maintenance employment will be created, mainly with a level of skill required; and ▪ Some long-term employment at main distribution points will be created. Therefore, as mentioned on numerous occasions any potential job creation would be temporary during the construction phase (if the construction of the proposed pipeline does materialise, the extent of such jobs would be determined per

Stakeholder Reviewer Name	Organisation	Date, Method of Submission and Specific Chapter	Reviewer Comment	Response
				project, based on its business case). Additional information regarding job creation has been included in Part 2 of the Gas Pipeline SEA Report. The statement made noting that the "*areas generally targeted for developments and pipelines are generally black, low income areas*" is incorrect. As clearly indicated in Parts 1, 2, 3 and 5 of the Gas Pipeline SEA Report, 125 km wide corridors were assessed as part of the SEA Process, and the best 100 km wide corridors have been identified following the factors: ▪ The findings of the numerous well informed Specialist Assessments, taking environmental sensitivities and social factors into account; ▪ The updated engineering constraints and environmental sensitivity analyses; ▪ The comments received from the stakeholders; and ▪ The findings of the Demand Mapping (including push and pull factors). Various features were considered in the environmental and engineering sensitivities analysis, as shown in Part 3 of the Gas Pipeline SEA Report, such as, but not limited to heritage features, CBAs, wetlands, estuaries and settlements. Where possible, the developer would try to route the gas pipeline over low sensitivity areas, such as: ▪ Probable wetland, non-NFEPA (National Freshwater Ecosystem Priority Area) wetlands, least threatened wetlands, Other Natural Areas (ONA) (aquatic), formally protected aquatic features; ▪ Certain river ecosystems; ▪ Freshwater fauna and flora containing Least Threatened species; ▪ Transformed Land Cover; ▪ KZN Vegetation Conservation Status "Least Threatened"; ▪ 2016 Ezemvelo KZN Wildlife CBAs: Ecological Support Area (ESA); ▪ 2017 Western Cape Biodiversity Framework CBAs: ESA; and ▪ 2017 Eastern Cape CBAs: ESA. Therefore, all the low sensitivity areas identified in the SEA Process would be considered as the best options for routing the gas pipeline, and if these areas are not possible, the remaining medium, high and very high sensitivity areas will be considered in compliance with the EIA Regulations, as well as the Generic Environmental Management Programme (EMPr) and Protocols that have been compiled as part of the SEA. It should be noted that the Settlement Planning, Disaster Management and related Social Impacts chapter considers key social, settlement planning and

Stakeholder Reviewer Name	Organisation	Date, Method of Submission and Specific Chapter	Reviewer Comment	Response
				development considerations relevant to the development of the gas pipeline corridors. This chapter also assesses Health and Safety impacts associated with the operation of a gas transmission pipeline, as well as Health Risks associated with a gas transmission pipeline leak or fire. Adequate mitigation measures have been provided for these impacts, such as ensuring that a metre by metre risk assessment is undertaken over the entire length of the pipeline, ensuring that all threats are eliminated or at least minimised such that risk of leak/rupture of the pipeline is avoided or at least reduced to As Low as Reasonably Practicable (ALARP).

2.4. Gas Opportunities Assessment Chapter, IRP, Gas Allocations, and Energy Mix Comments

Stakeholder Reviewer Name	Organisation	Date, Method of Submission, and Specific Chapter	Reviewer Comment	Response
Bongani Sithole	City of Cape Town, Energy & Climate Change Directorate	19 June 2019, Email Part 1 – Gas Pipeline Page 3 Line 51	City of Cape Town contribution with new 360MW of OCGT in 2030	**Response from the CSIR**: This comment is noted. Part 1 of the Gas Pipeline SEA Report has been amended accordingly.
Bongani Sithole	City of Cape Town, Energy & Climate Change Directorate	19 June 2019, Email Part 1 – Gas Pipeline Page 3 Line 53	The gas include LPG as well.	**Response from iGas**: The pipelines assessed in this SEA were for Natural Gas only.
Bongani Sithole	City of Cape Town, Energy & Climate Change Directorate	19 June 2019, Email Part 1 – Gas Pipeline Page 3 Line 53	The statement will be true if Eskom and Municipality (COCT) convert to gas	**Response from iGas**: This statement has been added to Part 1 of the SEA Report, however it is important to point out that the entire additional capacity of 3 000 MW allocated to Gas/Diesel (based on the Final 2019 IRP (DoE, 2019)) could be produced using natural gas only instead of gas and diesel, if all diesel generators convert to gas by 2030.
Bongani Sithole	City of Cape Town, Energy & Climate Change Directorate	19 June 2019, Email Part 1 – Gas Pipeline Page 8 Line 58	COCT to demonstrate and present detailed studies required to inform the desired energy mix post 2030 as well.	**Response from the CSIR**: This comment is noted. Part 1 of the Gas Pipeline SEA Report has been amended accordingly.
Bongani Sithole	City of Cape Town, Energy & Climate Change Directorate	19 June 2019, Email Part 1 – Gas Pipeline Page 8 Line 96	To include OCGT - 36MW and 42 MW Athlone and Roggebaai respectively.	**Response from the CSIR**: This comment is noted. The current installed capacity for gas is indicated as 3 830 MW in the 2018 Draft Integrated Resources Plan (IRP); and in the 2019 Final IRP (promulgated on 17 October 2019). Refer to Pages 53 and 54 of the 2019 Final IRP for a breakdown of the installed capacity. The CSIR does not have the

Stakeholder Reviewer Name	Organisation	Date, Method of Submission, and Specific Chapter	Reviewer Comment	Response
				mandate to carry any changes to the 2019 Final IRP. Nevertheless, Part 1 of the Gas Pipeline SEA Report has been amended accordingly to mention the existing Athlone and Roggebaai OCGTs in terms of capacity. It should be noted that the 2018 State of Environment Outlook Report for the Western Cape Province: Energy notes that the Roggebaai OCGT has a capacity of **36 MW**, and not **42 MW**. Follow up was undertaken in July 2019 with the City of Cape Town to verify the MW capacity of the Roggebaai OCGT. The City of Cape Town confirmed that the Athlone OCGT has a capacity of 36 MW, and the Roggebaai OCGT has a capacity of 42 MW capacity.
Bongani Sithole	City of Cape Town, Energy & Climate Change Directorate	19 June 2019, Email Part 1 – Gas Pipeline Page 10 Line 16	Demand assessment for COCT may be included together with the Western Cape Submission.	Response from the Gas Opportunities Analysis Specialist Author: This comment is noted, however, new data is continually being produced and it is not possible to continually update the document with all new data as this becomes available. It is hoped that interested and affected parties will provide new data that is deemed of key importance to the potential developers of gas pipeline infrastructure in South Africa, at a more appropriate time.
Bongani Sithole	City of Cape Town, Energy & Climate Change Directorate	19 June 2019, Email Part 1 – Gas Pipeline Page 10 Line 30	A lot have been developed since 2017 data that is presented by Gray 26 September 2017. My view will be other stakeholders should be given a chance to participate as well.	Response from the Gas Opportunities Analysis Specialist Author: This reference (i.e. Gray, 2017) is to a trend regarding the growing use of gas in many segments of the transport sector, and not to specific quantities. This trend has not changed since 2017. Response from the CSIR: It should be noted that all stakeholders were provided an opportunity to review the Draft SEA Report and Specialist Assessment chapters from 25 April 2019 to 24 June 2019. Furthermore, representatives from the Energy Department of the Western Cape Department of Environmental Affairs and Development Planning (DEADP) were interviewed as key informants in the Gas Opportunities Analysis Report (Appendix 1 of Part 1 of the Gas Pipeline SEA Report). Therefore, it is expected that the energy demand and opinions of the local and metropolitan municipalities falling within the Western Cape were represented in this interview with the province. Other informants interviewed included the National Department of Energy, National Department of Trade and Industry, Eskom, Transnet, Sunbird Energy, PetroSA, Price Waterhouse Coopers, and the Central Energy Fund (iGas).
Bongani Sithole	City of Cape Town, Energy & Climate Change Directorate	19 June 2019, Email Part 1 – Gas Pipeline Page 10 Line 55	MRG, the Lilly Pipeline has been existing for some time and witnessed few intake for distribution market. Due diligence I believe is included to demonstrate feasibility of this project.	Response from the Gas Opportunities Analysis Specialist Author: Agreed, that due diligence and feasibility processes need to be followed as a general principle.

Stakeholder Reviewer Name	Organisation	Date, Method of Submission, and Specific Chapter	Reviewer Comment	Response
				Response from iGas: A gas pipeline would only be developed if there is a guaranteed source of gas and demand for the gas, as well as a strong viable business case.
Bongani Sithole	City of Cape Town, Energy & Climate Change Directorate	19 June 2019, Email Part 1 – Gas Pipeline Page 10 Line 105	Should also be viewed from the external contribution of gas into the country.	Response from the Gas Opportunities Analysis Specialist Author: This specific section in Part 1 of the Gas Pipeline SEA Report notes that "the development of a Bankable Feasibility Study and completing the relevant business case can only be led by the relevant gas reserve finds with commercial opportunities, i.e., a source of gas and a guaranteed offtaker, prior to the pipeline being constructed". It is agreed that such feasibility studies would need to take into account gas supply alternatives external to South Africa.
Bongani Sithole	City of Cape Town, Energy & Climate Change Directorate	19 June 2019, Email Part 1 – Gas Pipeline Page 13 Line 2	The constitution chapter 7: local government: section 156(2); 153(1)(b); 155(6)(a) and (7) should be among the framework legislating the gas related acts, with the view that the proposed pipeline will be installed in the municipal lands/ due restriction.	Response from the Gas Opportunities Analysis Specialist Author: Agreed. The constitution as well as planning legislation regulates this planning process and the way that the three spheres of government participate in this process. Response from the CSIR: Applicable legislation is described in Section 1.4 of Part 1 of the Gas Pipeline SEA Report as well as in the Specialist Assessment chapters (Appendix C of the Gas Pipeline SEA Report). All legislation published in South Africa is cognisant of the Constitution of South Africa. In addition, as noted in Part 1 of the Gas Pipeline SEA Report, the National Department of Energy formulated the Gas Act (Act Number 48 of 2001), which aims to, among others, establish a national regulatory framework; regarding gas pipeline development, as well as to ensure the safe, efficient, economic and environmentally responsible transmission, distribution, storage, liquefaction and re-gasification of gas. It is understood that the Gas Act (Act Number 48 of 2001) is currently being updated.
Bongani Sithole	City of Cape Town, Energy & Climate Change Directorate	19 June 2019, Email Part 1 – Gas Pipeline Page 13 Line 58	PASTEL analysis must be clearly evaluated and demonstrated to show the value and benefit to the SA citizens. Note from the CSIR: Further clarification on this comment was obtained from the City of Cape Town on 3 July 2019. This clarification is noted below: As much as this (Strategic Environmental Assessment) cover PESTEL analysis, my high level assessment should be clearly articulated and will mention the following. PESTEL analysis is the framework or tool used to analyse and monitor the macro environmental factors	Response from the Gas Opportunities Analysis Specialist Author: It is assumed that this comment refers to a PESTLE analysis which is a framework that examines opportunities and threats due to Political, Economic, Social, Technological, Legal and Environmental forces. This Strategic Environmental Assessment (SEA) process has attempted to address and clarify these issues. Detailed Specialist Assessments are included in this report (Appendix C of the Gas Pipeline SEA Report).

Stakeholder Reviewer Name	Organisation	Date, Method of Submission, and Specific Chapter	Reviewer Comment	Response
			that would have impact in the country by doing this project. ▪ The degree of three spheres of government involvement – including provinces and local governments and anticipated future legislations. ▪ Economic growth, local businesses development as well as management of demand. ▪ Socio-cultural factor – areas that involve the shared belief and attitudes of the population. E.g. skill development, reduction of unemployment, access to finance and as well as quality of life. ▪ New ways of manufacturing and construction, and communicating to the target market,also ways of distribution of LNG. ▪ Environmental factors include doing business ethical and sustainable. ▪ Health and safety issues; equal opportunities; and transformation agenda; these matters should be transparent.	
Bongani Sithole	City of Cape Town, Energy & Climate Change Directorate	19 June 2019, Email Part 1 – Gas Pipeline Page 22 Line 22	The COCT may support the argument that the rational for old Athlone Power Station decommissioning opens up opportunity to invest with renewables - new Gas Turbines as per the draft 2018 IRP by 2030.	Response from the CSIR and the Gas Opportunities Analysis Specialist Author: This comment is noted. The decommissioning of old Eskom power plants was captured in the 2018 Draft Integrated Resources Plan, and is also captured in the promulgated 2019 Final IRP. Investment opportunities will be a decision of the City of Cape Town.
Bongani Sithole	City of Cape Town, Energy & Climate Change Directorate	19 June 2019, Email Part 1 – Gas Pipeline Page 22 Line 54	Cape Town also have full potential and willingness to participate to LNG to Power IPP Programme and provide anchor gas demand similar to the Port of Ngqura and Richards Bay.	Response from the Gas Opportunities Analysis Specialist Author: This comment is noted. Part 1 of the Gas Pipeline SEA Report has been amended to refer to "various ports" to allow for the possibility of LNG to Power at other ports in addition to the Ports of Ngqura and Richards Bay.
Bongani Sithole	City of Cape Town, Energy & Climate Change Directorate	19 June 2019, Email Part 1 – Gas Pipeline Pages 26 and 36 Lines 35 and 32	The COCT have commissioned the demand for gas for electricity generation study. The City of Cape Town are in the process of assessing the study to generate electricity using gas. And should be the case we are requested to participate the City will consider such a direction.	Response from the Gas Opportunities Analysis Specialist Author: A statement that the City of Cape Town was in the process of assessing the results of this work has been added to the report (Part 1 of the Gas Pipeline SEA Report). It is also understood that this study was finalised in November 2019.
Bongani Sithole	City of Cape Town, Energy & Climate Change	19 June 2019, Email Part 1 – Gas Pipeline	The duck curve presented illustrate California load profile. It will be interesting to model South Africa demand profile.	Response from the Gas Opportunities Analysis Specialist Author: The example provided is merely used to illustrate the concept of the duck curve. The issues discussed are relevant to South Africa. The detailed South African energy demand issues are referred to in the main SEA

Stakeholder Reviewer Name	Organisation	Date, Method of Submission, and Specific Chapter	Reviewer Comment	Response
	Directorate	Page 39 Line 21		Report.
Shaazia Bhailall	City of Cape Town, Energy & Climate Change Directorate	19 June 2019, Email General	Some metro municipalities are looking to the possibility of gas distribution. Have these studies been considered in the current SEA?	Response from the Gas Opportunities Analysis Specialist Author: It has not been possible to obtain these studies, however, reference to these has been expanded on in Section 4.1 of Appendix 1 of Part 1 of the Gas Pipeline SEA Report. It should also be re-iterated that this SEA Process has only assessed gas transmission pipelines, and not distribution or reticulation pipelines.
April Gehle	Private	22 June 2019, Email Part 3 – Gas Pipeline Page 2 Lines 13 - 20	Current research is now concluding that natural gas does not have a positive significant role to play in future energy production. 1. International Agency for Renewable Energy. IRENA's Renewable Power Generation costs in 2018 report. https://www.irena.org/publications/2019/May/Renewable-power-generation-costs-in-2018 2. Forbes, Renewable Energy will be consistently cheaper than fossil fuels. https://www.forbes.com/sites/dominicdudley/2018/01/13/renewable-energy-cost-effective-fossil-fuels-2020/#177288674ff2 https://www.forbes.com/sites/dominicdudley/2019/05/29/renewable-energy-costs-tumble/#12758013e8ce	Response from the Gas Opportunities Analysis Specialist Author: These sources refer mainly to the comparative cost of different energy sources. While comparative direct financial costs, as well as environmental impacts, are important drivers of future energy use, other factors such the availability of renewable energy sources and existing power generation technologies also need to be taken into account. The report acknowledges in Section 4 of Appendix 1 of Part 1 of the Gas Pipeline SEA Report that "It would appear that there is a need for greater transparency and availability of information regarding gas prices in different demand scenarios so as to ensure that ongoing exploration of gas opportunities is informed by pricing information that is as transparent as possible."

2.5. Groundwater Impacts

Stakeholder Reviewer Name	Organisation	Date, Method of Submission and and Specific Chapter	Reviewer Comment	Response
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 2 Identification Of Gas Pipeline Corridors	Likewise, does blasting in support of trenching through bedrock hold a potential risk to shallow aquifers and the delivery of groundwater to, particularly, farms?	Response from iGas and Sasol: The rocky obstacles will be avoided to the best extent possible. If unavoidable, excavators will be used to remove rocks and boulders. Blasting will be used as an absolute last resort after all other alternatives have been exhausted. Response from the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) Author: The relatively shallow placement of the pipeline (1-2 m to the top of the pipe, ~ 4 m maximum depth) and associated construction activities are unlikely to significantly impact on ground water and deep aquifers. The presence of shallow aquifers that could potentially be impacted need to be

Stakeholder Reviewer Name	Organisation	Date, Method of Submission and and Specific Chapter	Reviewer Comment	Response
				determined at a site-specific / pipeline route plotting stage, avoided as far as possible, and any impacts mitigated. Note that supplementary mitigation recommendations specific to groundwater / shallow aquifers have been added to Section 8.1 of the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) (which is included in Appendix C.1 of the Gas Pipeline SEA Report) based on this comment, and a Depth to Groundwater map added to Box 11. These recommendations have been incorporated into the Generic Environmental Management Programme (EMPr) that has been compiled as part of this SEA.

2.6. Noise Impacts

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
Werner Geldenhuys	City of Cape Town, Community Services and Health Directorate, Specialised Health Services	23 May 2019, Email	**1. Assessment of application:** This office has scrutinised the mentioned draft SEA report and can comment as follows: The application was assessed in light of *The Western Cape Noise Control Regulations PN 200 of 2003 and SANS 10103:2008 – The measurement and rating of environmental noise with respect to annoyance and to speech communication*. The following descriptions i.t.o the above mentioned legislation is applicable to this application. "***Disturbing noise***" *means a noise, excluding the unamplified human voice, which –* *a) Exceeds the rating level by 7dB(A);* *b) Exceeds the residual noise level where the residual noise level is higher than the rating level;* *c) Exceeds the residual noise level by 3dB(A) where the residual noise level is lower than the rating level; or* *d) In the case of a low frequency nose, exceeds the level specified in Annex B of SANS 10103.*	<u>Response from the CSIR</u>: It should be re-iterated that the entire 100 km wide corridors will not be developed with gas pipelines. During the operational phase, a 10 m wide servitude will be required for the gas pipeline. Furthermore, gas pipelines will only be constructed if there is a viable business case and if there is a demand for such infrastructure. Part 2 of the SEA Report provides a significant amount of detail on the specifications of the gas pipeline development from a construction and operational perspective, within the scope of the SEA. Additional details will be available once a specific project has been identified. Noise related impacts would mainly occur during the construction phase and would be of a temporary nature as a result of construction activities undertaken on site and transportation of equipment and construction personnel to and from site. During the operational phase, activities will be limited to maintenance activities, which leads to the expectation that noise related impacts will be of low significance. Maintenance for the gas pipelines will include pigging, cleaning, inspections and repair to the pipeline if needed. Pigging will be undertaken once every five years. The pigging stations will be accessed on a regular basis for maintenance of the stations (generally 4 to 6 times per year)

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
			"***Rating level***" *means the applicable outdoor equivalent continuous rating level indicated in Table 2 of SANS 10103.* "***Residual noise***" *means the all-encompassing sound in a given situation at a given time, measured as the reading on an integrated impulse sound level meter for a total period of at least 10 minutes, excluding noise alleged to be causing a noise nuisance or disturbing noise.* "***Noise nuisance***" *means any sound which impairs or may impair the convenience or peace of a reasonable person.* "***Property projection plane***" *means a vertical or horizontal plane, whichever is applicable, on a boundary line of premises defining a boundary of the premises in space.* "***Day-time***": *06h00 – 22h00* "***Night time***": *22h00 – 06h00* ***Regulation 4: Land Use*** *states:* *4 (1). The local authority, or any other authority* ***responsible for considering an application*** *for a building plan approval, business licence approval, planning approval or* ***environmental authorisation****, may instruct the applicant to conduct and submit, as part of the application –* *(a)* ***a noise impact assessment in accordance with SANS 10328 to establish whether the noise impact rating of the proposed land use or activity exceeds the appropriate rating level for a particular district as indicated in SANS 10103****; or* *(b)* ***where the noise level measurements cannot be determined, an assessment, to the satisfaction of the local authority, of the noise level of the proposed land use or activity****.*	If the expected noise levels are expected to trigger the need for a Noise Impact Assessment, then such an assessment will be undertaken during the project specific stage, as part of the Environmental Assessment (based on compliance with the Decision-Support Tools compiled as part of the SEA Process, such as the Generic Environmental Management Programme (EMPr)). A Noise Impact Assessment cannot be undertaken at this SEA level, as project specific details would be required, such as (but not limited to): ▪ where the pipeline route will be constructed based on the customer and demand; ▪ which surrounding residential or non-residential areas will be affected by the development; ▪ what the existing ambient sound levels will be in terms of the sensitive receptors and new noise sources; and ▪ what the calculated modelled noise impact would be from the noise source. This level of detail can only be determined at the project specific stage. At this point, a Noise Impact Assessment cannot be undertaken for the 100 km wide corridors as this would result in an overwhelming number of sensitive receptors, and this cannot be narrowed down because there is no definite idea of the route that will be chosen by the developer during the project specific stage. Once a specific project has been identified, and if it is proposed take place within the Western Cape, and if a formal Noise Impact Assessment is required, it will be undertaken in terms of the Western Cape Noise Control Regulations (PN 200 of 2013), SANS 10328:2008 and SANS 10103:2008, and it will focus on the construction and operational phases, as well as the ancillary infrastructure. Notwithstanding the above, management actions relating to noise impacts have been included in the Generic EMPr. Furthermore, it is important to note that the Gas Pipeline will be designed and constructed in line with relevant national and international standards and best practice measures. Therefore, the developers will definitely consider environmental noise control as an integral part of project design.

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
			2. Discussion: The City of Cape Town Noise Unit acknowledges that the SEA is a high level assessment to investigate the probability and, risks and impacts this project may pose to the South African community in close proximity to the indicated corridors for the gas pipeline and the EGI. Although the transport and conveyance of gas through a pipeline, on this magnitude, will be new to South African community, there are other parts of the world where this has been the norm for many years. In preparing this response, reports on the environmental noise impact of gas pipelines in several other countries were considered. According to an article presented to the International Pipeline Conference in 1996 *(David C. DeGagne (1996). Managing Environmental Noise Associated with Pipeline Facilities in Canada. International Pipeline Conference – Volume 1, Alberta).* DeGagne states: "***pipeline operators must treat environmental noise control as an integral part of project concept and design and not as an after-thought or additional non-core responsibility***". The statement is further supported with a discussion on the components and equipment relevant to a gas-pipelines, which cause environmental noise nuisance. This unit acknowledges the indication that this will be a sub-surface pipeline installation. The installation project is at this point accepted to have a construction phase and operational phase, both of which will have environmental noise impacts unique to the relevant activity or component. More detailed applications would have to be presented to this unit, in order to make specific requirements. It must be noted that the existing SEA do not cover engineering reports pertaining to the specifics of the pipeline installation an ancillary equipment.	Details supplementary to that provided in Part 2 of the SEA Report would be indicated at the project specific stage.

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
			The location and magnitude of transmission substations for the upgrade to the EGI is also a point of interest to this unit. This unit will comment there-on as the detailed EA applications are submitted to the City of Cape Town. **3. Comment:** In terms of the Western Cape Noise Control Regulations, PN 200 of 2013, Regulation 4 the City of Cape Town Specialised Environmental Health: Noise Unit therefore would require: 3.1 A **formal noise impact assessment** in terms of **Regulation 4(1)(a),** must be conducted in terms of the SANS 10328:2008 Methods for environmental noise impact assessments for the project phases falling within the boundary of the City of Cape Town. The NIA must address the construction phase of the actual pipeline, as well as the installation and operation of supporting equipment to the gas pipeline. 3.2 The above requirement will also be applicable to the detailed project level environmental authorizations for transmission substations and related EGI infrastructure. 3.3 A **noise management plan**, detailing measures of continuous control (for the entire lifespan of project) applicable to all phases and components (pipeline equipment) of the pipeline project and transmission substations and related EGI infrastructure should be developed and submitted to this unit for consideration. 3.4 The proposed activity **must remain compliant with the provisions of the Western Cape Noise Control Regulations, PN 200 of 2013** 3.5 All detailed project level environmental authorizations applications for the pipeline and EGI equipment installations, within the boundaries of the City of Cape Town must be submitted to this unit for comment.	

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
			This comment is based on information available at the time, and is as complete as possible. Should new information become available or should conditions change the report and comment on this application may be reconsidered by this office.	

2.7. Requirements Prior to Excavations

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
Anton Venter	City of Cape Town, Energy and Climate Change Directorate	23 May 2019, Email General	With reference to your e-mail dated 2019-04-30, this department has no objection to this proposal subject to the following conditions: 1. All excavations and underground installations shall be undertaken with approved wayleaves from Telkom and our Civil and Electrical Engineering Directorates. A permit must also be obtained from our Power Distribution Department before any excavation commences and this must be conveyed to the successful contractor upon appointment. 2. Final route approval and any additional condition will be given with wayleave application. 3. Vitally important electrical infrastructure exists in the vicinity of the land in question. A wayleave shall be obtained from the Electricity Services Department before any excavation work may commence on site.	**Response from the CSIR**: As part of the SEA Process, a Generic Environmental Management Programme (EMPr) has been compiled and these recommendations for excavations have been included in the EMPr. It is important to note that the final route of the gas pipeline will only be determined during the project specific stage, which will include an Environmental Assessment process.

2.8. Waste Management Impacts

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
Part 2 - Gas				
Gerhard Gerber	Western Cape DEADP, Development	24 June 2019, Email	The proposed development will generate a range of atmospheric emissions, wastewater discharges and solid and semi-liquid wastes. Most of the solid and	**Response from the CSIR**: Recommendations for waste management and verifying that existing landfill sites have capacity to handle the increased waste generated by the specific projects, have been

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
	Facilitation	Part 2 – Gas Pipeline	steam liquid will require disposal offsite. It is important to determine whether the existing infrastructure and services available in the region has capacity to handle the increased levels of solid and semi-liquid waste anticipated from the project. It is therefore the opinion of Directorate that this must be assessed and the information obtained prior to any implementation commencing.	included in the Generic EMPr for gas pipelines compiled as part of the SEA. It is important to note that the final route of the gas pipeline will only be determined during the project specific stage, which will include an Environmental Assessment process. Therefore, confirmation on whether the landfill sites have adequate capacity will be ascertained during the project specific stage.

2.9. Public Participation and Stakeholder Engagement

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
Janet Solomon	Private/ Vanishing Present Productions	10 June 2019, Email Part 1 – Gas Pipeline Page 11 Page 13 Line 6	Have these multiple landowners over whose land the pipelines will potentially run been involved in the public participation process for this SEA? The project will engage 100s of landowners and traverse 1000s of kilometres yet the public participation process has involved only 7 towns in South Africa, with literature in English. Please justify how the consultation with 'the general public' can be considered "extensive".	**Response from the CSIR**: The SEA Process is a high level strategic assessment aiming at identifying the optimum location of nine 100 km wide final gas pipeline corridors (from an environmental, social and demand perspective) for the potential development a gas transmission pipeline. The study area covers 8 Provinces, 38 District Municipalities and 134 local and metropolitan municipalities. The SEA has not assessed a specific route and a gas pipeline (i.e. a specific route) would only be developed if there is a source of gas, a demand for the gas, and a strong business case. If the pipeline project is justified, a pipeline route selection process will be commissioned and a public consultation process will be undertaken at that stage. In this regard, all affected landowners will be consulted with during servitude negotiations or discussions. The SEA is a **policy process** that precedes and informs the project specific phase. It has been undertaken in a transparent manner and has included engagement with as many stakeholders as possible. At a national strategic planning level, it is common practice to engage with organisations (such as AgriSA, AgriWestern Cape, South Durban Community Environmental Alliance (SDCEA) etc.) that represent a larger group of stakeholders and rely on these to convey and share the relevant information to their constituencies. Note that both AgriSA and AgriWestern Cape are registered members of the Expert Reference Group, and it is expected that these organisations inform relevant
Janet Solomon	Private/ Vanishing Present Productions	10 June 2019, Email Part 1 – Gas Pipeline Page 12 Line 141	How is enthnodiversity acknowledged in the public participation process?	
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 2	**Public Consultation** We are concerned that the CSIR has limited its language of communication to English-language	

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
		Identification Of Gas Pipeline Corridors. Page 23 Lines 50 – 68	media. Language should not be an obstacle to effective and inclusive public participation. In this regard you are reminded of the statutory principle 'that the participation of all interested and affected parties in environmental governance must (own emphasis) be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured' (section 2(4)(f), National Environmental Management Act 107 of 1998). By solely relying on English-language print media, you have effectively excluded -- in the rural areas of the Western Cape and Northern Cape in particular -- all or most people whose mother tongues is not English, who do not have access to or read English-language newspapers, and who rely on radio and other forms of media for news in languages other than English. This contention is supported by the following breakdown of the top three language groups for the Western Cape, Northern Cape and Eastern Cape respectively as reported by the 2011 census (SSA, 2014): ▪ Western Cape: 1. Afrikaans (49.6%); 2. isiXhosa (24.7%); 3. English (20.2%). ▪ Northern Cape: 1. Afrikaans (53.8%); 2. Setswana (33%); 3. isiXhosa (5.4%). ▪ Eastern Cape: 1. isiXhosa (78.8%); 2. Afrikaans (10.6%); 3. English (5.6%). cf:http://www.statssa.gov.za/publications/Report-03-01-70/Report-03-01-702011.pdf (Accessed 24-06-2019)	affected stakeholders with agricultural interests of the SEA via their forums, as was done by other organisations that wanted to spread awareness of the SEA (IAIAsa KZN Branch, South African Oil and Gas Association, FrackFree SA, and Energy Governance South Africa (EGSA)). Based on the size of the study areas and the objective of this SEA Process, it was not possible to publish communication on the project in all official languages. As practised on other SEAs commissioned by the DEA, the language medium adopted for this Gas Pipeline SEA was English. In situations where stakeholders have requested information in additional languages, this has been provided by the team. At public meetings, the SEA team included people with a diversity of language skills. It is unfortunately not possible to publish adverts in the Landbouweekblad or notices on Radio Sonder Grense at this stage of the SEA Process (i.e. Phases 1 and 2 have been completed). However, it is important to re-iterate that Public Information Sharing Sessions were held in the Western Cape and Northern Cape in November 2017 and October 2018. To respond to Mr D'sa concern on areas reportedly not covered - advertisements were placed in a number of KwaZulu-Natal newspapers throughout the SEA Process, as indicated below, to either inform stakeholders and I&APs of the SEA or of any Public Information Sharing Sessions ▪ <u>July 2017 for notification of the SEA Process:</u> o Daily News ▪ <u>October 2017 for notification of Round 1 of the Public Outreach:</u> o Daily News ▪ <u>August 2018 to provide stakeholders with an update on the SEA Process:</u> o Daily News ▪ <u>September and October 2018 for notification of Round 2 of the Public Outreach:</u> o Daily News ▪ <u>May 2019 for notification of Additional Meeting:</u> o Tongaat and Verulam Tabloid (English); o Southern Star (English); o Highway Mail (English); o Springfield Weekly Gazette (English); o Eyethu Umlazi (Zulu); and o Isolezwe (Zulu).

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
			It is strongly recommended that, in order to improve the public exposure of the SEA to at least agricultural interests in rural areas, and to correct the language bias that has characterised your media coverage to date, the CSIR places public notices and press releases in Landbouweekblad which is the largest-circulating mass agricultural publication in South Africa. In May 2018, Landbouweekblad had ca. 27 300 readers compared with Farmer's Weekly's ca. 11 550. (cf: <http://www.marklives.com/2018/05/abc-analysis-q1-2018-the-biggest-circulating-consumer-mags-in-sa/>). The same applies to Radio Sonder Grense <http://www.rsg.co.za/>, the SABC's Afrikaans language channel with 1 299 000 listeners (<https://themediaonline.co.za/2018/12/what-the-latest-ram-reveals-about-radio-listenership/>).	The Daily News and Isolezwe are provincial newspapers and therefore cover all the areas listed by Mr. D'Sa, including areas along the coastline. Furthermore, the newspaper adverts placed in May 2019 are targeted at specific communities, such as Tongaat, La Mercy, Umdloti, Verulam, Central Durban, Bluff, Merebank, Isipingo, Umlazi, Wentworth and Jacobs. In addition, at the request of Mr D'sa, the Background Information Document and Presentation (in English and isiZulu) were emailed on 8 July 2019 to ten representatives from the following areas: Port Edward; Port Shepstone; Scottburgh; Umgababa; Umkomaas; Richards Bay; Mtunzini; Umfolozi; Mtubatuba; and Hluhluwe. In addition to the above, regular emails were sent to registered stakeholders and I&APs informing them of project related updates or upcoming meetings. In addition, a specific awareness campaign was undertaken prior to the additional meeting that took place on 13 June 2019 in Durban. Emails were sent to all that attended the October 2018 meeting. Personalised invite letters were also distributed via email to all affected District Municipalities in KwaZulu-Natal on 24 May 2019, and copied to Local Municipalities, where details were present on the database. District Municipalities were requested to forward the notification to the affected Local Municipalities. A personalised invite letter was also sent to Mr. D'Sa of the SDCEA by the Department of Environmental Affairs (DEA) on 23 May 2019 via email. The SDCEA was also kindly requested to forward the invitation to the session to relevant parties and any other stakeholders on their database to spread awareness of the meeting. This therefore substantiates that many more areas in KwaZulu-Natal have been covered by the Public Participation Process, including rural communities. It is important to note that the pipeline will be designed according international standards and based on the surrounding land uses (i.e. rural versus semi-urban), and adequate mitigation measures will be implemented as per the Generic EMPr. Additional details of the stakeholder and public participation processes undertaken during the SEA is captured in Appendix A of the Gas Pipeline SEA Report.
Desmond D'Sa	South Durban Environmental Community Alliance	24 June 2019, Email General	**Public Participation** The public participation for this whole process has been completely flawed from the inception of the project. The Department of Environmental Affairs and Department of Minerals and Energy and CSIR hosted only one meeting in Durban and presenters informed us at the meeting that this will be the open meeting as there was no response even though they advertised this in a few newspapers in KZN. We questioned the rational of expecting affected communities to attend this important meeting and travel from all over KZN. There are crucial areas in KZN that the CSIR has failed to contact and engage with in this process despite being asked to in their previous meeting in October 2018. Many areas have been excluded from the public participation process including Kosi Bay, Sodwana Bay, St Lucia, Hluluwe, Mtubatuba, Mtunzini, Stanger, Tongaat, Shakas Kraal, La Mercy, Umdloti, Verulam, Umhlanga,	

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
			Central Durban, Bluff, Merebank, Isipingo, Amanzimtoti, surrounding townships like Chatsworth, Inanda, Umlazi, Phoenix, KwaMakhuta, Illovu, Port Shepstone, Richards Bay, Park Rynie, Ubumbulu, Wentworth, Jacobs, Umkomaas, Ifafa Beach Scottsburgh, Margate, Mtwalume and Port Edward. All these areas will be directly and indirectly affected if gas pipelines are put installed on roads, open spaces, school grounds, recreation and alongside homes, food gardens, water pipes and wetland areas etc. There was also no advertising or participation in the rural communities and all along the coast of KwaZulu-Natal which is social exclusion and discriminatory.	
Desmond D'Sa	South Durban Environmental Community Alliance	24 June 2019, Email General	**The Public Information Meeting** The process of the public information meeting is flawed. For an important meeting such as this the time was insufficient, for presentation and comments. Presentations by the consultants were rushed through and many important slides on the presentation were over looked as not important, yet they should not be in the presentation if this was not a part of the SEA. Clearly the rush was to get the presentation over and done within a short period of time.	**Response from the CSIR**: As noted in the Gas Pipeline SEA Report, two rounds of Authority Meetings and Public Information Sharing Sessions were undertaken as part of the SEA in November 2017 and October 2018 at various key locations throughout the country. The first round took place from 1 - 13 November 2017, in Springbok, Cape Town, George, East London, Durban and Johannesburg. The meetings were scheduled from 17H00 to 19H00, and were extended where required. During this round, the SEA Process and Draft Initial Corridors were introduced, along with the findings of the negative mapping. The second round took place from 8 – 22 October 2018, in George, Port Elizabeth, East London, Durban, Johannesburg, Upington, Springbok and Cape Town. The meetings were scheduled from 17H00 to 20H00, and were extended where required. During this round, progress on the SEA Process was provided, along with the findings of the Specialist Assessments. In addition, the additional Public Information Sharing Session that took place in Durban on 13 June 2019 was scheduled from 17H00 to 20H00, and was extended to 21H15. The Public Information Sharing Sessions were held after hours to allow those stakeholders that work during the day to still attend the sessions. This is in line with current best practice and based on previous experience. The concern about timing or duration of the sessions were not raised at the previous 12 Public Information Sharing Sessions. In addition, at the Public

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
				Information Sharing Session on 13 June 2019, it was communicated to Mr. D'Sa at the meeting, on numerous occasions, that the team was not rushing through the information presented, and that the team was prepared to go through the presentations again, if required.
Desmond D'Sa	South Durban Environmental Community Alliance	24 June 2019, Email Part 1 Gas Pipeline	**Translation of documents** The CSIR together with the Department of Environmental Affairs has agreed to translate the documents into IsiZulu and make the comments period 30 days from the time of publish. IsiZulu SEA's need to be entirely accessible to the public, therefore hard copies will have to be distributed. Many community members do not have access to the internet therefore they cannot download the SEA's off the internet to make meaningful comment as data costs money which rural communities do not have given the current economic situation prevalent in the country at the moment. It is the responsibility of the paid independent consultants to ensure that all communities have access to the SEA's.	**Response from the CSIR**: At the Public Information Sharing Session on 13 June 2019, it was agreed that the Background Information Document and presentation delivered at the Public Information Sharing Sessions, should be translated to isiZulu. It was not agreed at the meeting that the SEA Reports would be translated to isiZulu. Nevertheless, a detailed summary of the information contained in the reports is captured in the presentation that was delivered at the Public Information Sharing Sessions. The translated documents were emailed to the attendees of the additional Public Information Sharing Session on 8 July 2019. It is acknowledged that some community members do not have access to the internet or the resources available to download the SEA Reports from the project website. Therefore, as requested by the SDCEA, hard copies of these project related documents were placed at 10 key libraries in KwaZulu-Natal on 9 July 2019 in order to reach as many of the affected communities within KwaZulu-Natal as possible. Refer to Appendix A of the Gas Pipeline SEA Report for further details and for a complete list of the libraries where the documents were placed. Email addresses for representatives recommended by SDCEA were provided by SDCEA themselves and/or obtained directly from the representative by the CSIR. Provision of email addresses is an indication that these representatives have access to email and internet, and are therefore able to receive and access the project related information. A 30 day comment period extending from 9 July 2019 to 7 August 2019 was provided to stakeholders to allow for review of the above documents.
Bongani Sithole	City of Cape Town, Energy & Climate Change Directorate	19 June 2019, Email Part 1 Gas Pipelne Page 14 Line 114	The various SEA Project Team members - also to be extended to invite AMEU representative.	**Response from the CSIR**: Please note that the comment period on the draft refined corridors and associated specialist studies has been closed and the final corridors have been identified taking stakeholders feedback into consideration where applicable. AMEU will therefore have opportunities to comment on the final corridors during the gazetting process. Nevertheless, all the affected district and metropolitan municipalities have been consulted with during the SEA Process, hence the electricity departments within these municipalities are expected to be aware of the SEA Process.

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 2 Identification Of Gas Pipeline Corridors. Page 8 Lines 93 – 94 Lines 98 - 101	**Communication during construction** Agri Western Cape strongly endorses a process of devolved -- i.e. local-level -- stakeholder communication that well precedes the commencement of construction and lays the foundation for stakeholder-based monitoring forums as proposed on page 59 of the Social Impact Assessment, lines 46 to 52. Channels for such communication ideally need to be established before the commencement of any EIA processes. *Note from the CSIR: The "Social Impact Assessment" referred to above is the "Settlement Planning, Disaster Management and related Social Impacts" Assessment Report that was undertaken for the Gas Pipeline SEA.*	**Response from the CSIR**: These requirements (included in the Settlement Planning, Disaster Management and related Social Impacts Assessment Report (Appendix C.3 of the SEA Report), as well as other relevant measures to address stakeholder communication before the construction process takes place, have been captured in the Generic Environmental Management Programme (EMPr). Some of these channels for such communication could potentially be established during the servitude negotiation process, before the commencement of the project specific Environmental Authorisation process, however most of these channels will be established following the completion of the Environmental Assessment based on the assessment of the final pre-negotiated route.
Framed Question issued to Community Members in KZN by the South Durban Community Environmental Alliance (SDCEA): ***Zulu***: *Konje lonke lolulwazi mayelana naloluchungechunge lokumbiwa kwepayipi leGas ulithole kanjani?* ***English***: *How did you get the information about the investigation to channel gas pipelines underground?* **Response from the CSIR**: By way of background, as noted in this Section 2.11 above, a 30-day comment period extending from 9 July 2019 to 7 August 2019 was provided to stakeholders to allow for review of the presentation and Background Information Documents that were translated to isiZulu. The South Durban Community Environmental Alliance (SDCEA) thereafter compiled a questionnaire in isiZulu and sent them to community members in KwaZulu-Natal in order to seek their feedback and enable them to participate in this SEA Process.				
Samkelo Ntombela	Kwa-Makhutha Township	14 August 2019, Email and Courier General	**Response from the Community Members:** **Zulu**: *Ngokuhlanganela Kanye nomphakathi kuma meetings abizwe inhlangano yaka SDCEA*. **English**: We obtained the information at community meetings that were organised by an organisation from SDCEA.	**Response from the CSIR**: This comment is noted. A comprehensive Stakeholder Engagement Process was undertaken as part of the Gas Pipeline SEA (as captured in Appendix A of the Gas Pipeline SEA Report). It is important to note that this is an SEA Process, not a project specific Environmental Impact Assessment or Basic Assessment, therefore it is not possible to engage with all affected landowners or community members that fall within the 100 km wide corridors at this level. For further details, please also refer to the responses provided to the comments listed above in this section. However, it must **importantly** be noted that if, following the workshops that SDCEA undertook with members of communities in KwaZulu-Natal to spread awareness of the project and ensure that communities are engaged with, stakeholders got the impression that they would be killed by the proposed
Vuyo Mfolozi	Glebelands Community	14 August 2019, Email and Courier General	**Response from the Community Members:** **Zulu**: *Ngithole Ngenhlangano ebizwa ngo SEDCEA angenzi nzuzo*. **English**: I obtained information from an organisation called SEDCEA.	
Naledi Nene	Kwa-Makhutha Township	14 August 2019, Email and Courier	**Response from the Community Members:** **Zulu**: *Silithole ngokubambisana nale nhlangano (SDCEA). Isivule amehlo, izindlebe yaphinde*	

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
		General	*yasiqwashisa ngezinto ezithinta thina kodwa abantu abaphethe thina abasho lutho*. **English**: We obtained information from working together with an organisation called SDCEA. It was eye-opening and it made us aware of matters affecting us although people who are our leaders have not informed us.	infrastructure, this is incorrect. The Project Developer will ensure that the gas pipeline (if warranted) will be designed, constructed and operated in line with best practice, and national and internal specifications to ensure the overall safety of surrounding landowners. Furthermore, Risk Assessments will be undertaken during the design phase as per the Occupational Health and Safety Act (Act 85 of 1993). This is not an optional condition; Project Developers will be mandated to ensure proper design and maintenance.
Phakamani Ntombela	Kwa-Makhutha Township	14 August 2019, Email and Courier General	**Response from the Community Members:** **Zulu**: *SDCEA*. **English**: From SDCEA.	
Phelele Ngubane	Kwa-Makhutha Township	14 August 2019, Email and Courier General	**Response from the Community Members:** **Zulu**: *SDCEA inhlangano elwela imiphakathi ehluphekile. Iyona eze yasisiza ngolwazi*. **English**: SDCEA is an organisation that fights for impoverished communities. They are the ones who provided the information.	
Nomfundo Nxumalo	Kwa-Makhutha Township	14 August 2019, Email and Courier General	**Response from the Community Members:** **Zulu**: *Sibongha ama-Workshop esiwenzelwa oSDCEA kodwa siyabuka ukusebenzisana kwethu nabo sesiyazi kunje sizobulawa*. **English**: I am grateful for the workshops provided by SDCEA but in working with them, we now know that we are going to get killed.	
Mzuvefi Ngema	Kwa-Makhutha Township	14 August 2019, Email and Courier General	**Response from the Community Members:** **Zulu**: *Sibonge konke esikwenzelwe umvuzo osebenzisana noSDCEA abasiphe ulwazi lokwenza konke okuhle ukulwa nabantu abazosilethela izinto ezizosibulala.* **English**: We are grateful for all that SDCEA has done for us and for empowering us to fight against people who bring things that will kill us.	
Mzo Mhlobo	Kwa-Makhutha Township	14 August 2019, Email and Courier General	**Response from the Community Members:** **Zulu**: *Ukubambela izinhlelo zakwa SDCEA ikhona okungisizile. Ngabe angazi lutho ngaloluhlelo okukhulunywa ngalo*. **English**: It has helped me to attend programmes by SDCEA otherwise I would be ignorant about the	

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
			matters that were discussed.	
Mampondo Nkulu	Kwa-Makhutha Township	14 August 2019, Email and Courier General	**Response from the Community Members:** **Zulu**: *Singabonga ukwazana nomvuzo osebenza kwa-SDCEA okunguwona osinike lolulwazi*. **English**: We would be grateful to be more acquainted with the organisation SDCEA as it is this organisation that provided the information.	

2.10. Applicable Listed Activities, Streamlining of the Environmental Authorisation Process, Standards and Minimum Information Requirements

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
Janet Solomon	Private/ Vanishing Present Productions	10 June 2019, Email Part 1 – Gas Pipeline Page 12 Line 49	How will the "commonly agreed upon 'Development Protocols'" be decided?	**Response from the CSIR**: Once a Development Protocol is developed, it is internally vetted within the relevant divisions of the National Department of Environmental Affairs (DEA). The Protocol would then be routed through various official level Working Groups, specifically Working Group 4, 5 and 11, which consist of members of the DEA and Provincial Authorities. This is a Government process that is undertaken to approve all legislation relating to the environment. If the document is recommended by these Working Groups, it will then be put forward to the MinTech Meeting, which is represented by the DEA Deputy-Director and Provincial Heads of Department. If the document is approved and recommended by the MinTech, then it may be put forward to the MinMEC committee, which is represented by the Minister of Environmental Affairs and Provincial MECs. Once this is completed, the Development Protocol will then be published in a Government Gazette by the Minister of Environmental Affairs for public comment for a period usually extending 30-days. Following the closure of the comment period, the Development Protocols will be updated based on the comments received, as and where required. The finalised Development Protocol will then be published by the Minister in a Government Gazette for implementation.
Sinethemba Madondo	Gauteng DARD, Environmental Policy, Planning &	19 June 2019, Email	Consideration of GEMF Standards in terms of the conditions for exclusions, is this aligned and would there not be conflict in terms of the zones	**Response from the CSIR**: It is noted that the National Department of Environmental Affairs (DEA) published the adoption of the Gauteng Provincial Environmental Management Framework (EMF) Standard in Government

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
	Coordination	Part 1 – Gas Pipeline Page 13 Section 1.2	identified for the EMF exclusions and the proposed gas pipeline plan.	Gazette 41473, Government Notice 164, for implementation on 2 May 2018. These standards have been taken into consideration in the Gas Pipeline SEA. The Gauteng Provincial EMF Standard lists specific activities in Appendix 1 (as per the 2014 Environmental Impact Assessment (EIA) Regulations, as amended) that are excluded from acquiring an Environmental Authorisation if such activities are undertaken in Zone 1 or Zone 5 of the Gauteng Province. Zone 1 is referred to as the Urban Development Zone, and Zone 5 is referred to as the Industrial and Commercial Focus Zone. However, as stated in the Government Notice 164, the provisions of the Gauteng Provincial EMF Standard do not apply under the following circumstances: ▪ if any part of the footprint of an excluded activity extends outside the boundary of Zone 1 or Zone 5; ▪ if such excluded activity is directly related to prospecting, exploration, including primary processing, of a mineral or petroleum resource; ▪ if the development requires Environmental Authorisation for any activity that is not excluded in terms of the Standard, in which case Environmental Authorisation must be obtained for all applicable identified activities. The main listed activity triggered by the development of a gas transmission pipeline is Listed Activity 7 of Listing Notice 2 of the 2014 EIA Regulations (as amended): ▪ *The development and related operation of facilities or infrastructure for the bulk transportation of dangerous goods (i) in gas form, outside an industrial complex, using pipelines, exceeding 1 000 metres in length, with a throughput capacity of more than 700 tons per day*. Listed Activity 7 of Listing Notice 2 of the 2014 EIA Regulations (as amended) is listed for exclusion in Zone 5 but not in Zone 1, as indicated in Appendix 1 of the Gauteng Provincial EMF Standard (Government Notice 164). Therefore, providing that the proposed development does not trigger any other listed activity not included in Appendix 1 and that the above provisions are not triggered, an Environmental Authorisation for such development would not be required in Zone 5 but would be mandatory in Zone 1. Therefore, where the provisions from the Gauteng EMF Standard apply, the requirements of the latter will be prevalent (in relation to the gas pipeline corridors, once they are

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
				gazetted). The relevant management specifications included in Appendix 2 of the Gauteng Standard have been consulted with and incorporated (where applicable) into the Generic Environmental Management Programme for Gas Pipelines that has been complied as part of the SEA. It is also important to note that once a Screening Report is generated on the National Screening Tool (as required for all proposed developments that trigger a listed activity in terms of the 2014 EIA Regulations (as amended)), it will also provide a list of the proposed development incentives, restrictions, exclusions or prohibitions and their implications.
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Part 1 – Gas Pipeline Page 12 Lines 47 - 59	Integration between the different competent authorities responsible for environmental authorisation and licensing. Already the different competent authorities are not adhering to the One Environmental System - how will this integration be achieved? It is noted that the National Water Act, 1998 is not included in the Legal Framework (section 1.4, page 12).	**Response from the CSIR**: The SEA Report chapters that were released to the stakeholders for review noted that "*where possible, assessment and decision making procedures will also be integrated to maximise efficiencies*". It is agreed that achieving integration between various Competent Authorities may be a challenge considering the varying departmental mandates. For example, decision-making regarding borrow pit applications are made by the Department of Mineral Resources. In addition, the Department of Water and Sanitation handles decisions regarding Water Use Licencing. Feedback on the National Water Act (Act 36 of 1998) is included in the relevant Specialist Assessment chapters (Appendix C of the Gas Pipeline Report); however, it has also been added to Part 1 of the SEA Report as well.

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
Janet Solomon	Private/ Vanishing Present Productions	10 June 2019, Email Part 1 – Gas Pipeline Page 12 Lines 36 – 41 Lines 107 - 111	This blanket exemption from further EIA's lacks integrity and I object to it for the following reasons: It leaves potential gains and/or losses at the inter- and intra-species levels; changes in species abundances or human health; loss of habitat; loss of physical connectivity between habitats, and ecosystems and the currently unknown impacts - environmental, societal, archaeological, historical, cultural as well as undiscovered species, unaccounted for. I object to this. It is imperative that if EIAs are triggered by specific development within this project that they are undertaken to ensure mitigation of negative localised impacts and not that those issues are exempted in the interests of expedience. Norms and standards that apply to one sector would not be appropriate for another sector and be unable to cater for eventualities that may or may not exist in the future.	**Response from the CSIR**: These comments and concerns are noted. To ensure that when gas pipelines are needed, the Environmental Authorisation process is not a cause for delay towards development, one of the outcomes of this SEA is to streamline this process for Gas Pipeline development within the gas pipeline corridors whilst still maintaining and ensuring the highest levels of environmental rigour. The options that have been considered during the SEA Process to achieve streamlining are indicated below: ▪ Option 1: Allow for exemption of the need to obtain Environmental Authorisation in terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) provided that there is compliance with a **Norm or Standard**; or ▪ Option 2: Allow for a streamlined Environmental Authorisation process in terms of NEMA (i.e. undertake a Basic Assessment instead of an Environmental Impact Assessment) provided that there is compliance with the EIA Regulations, and potentially **Minimum Information Requirements**. In the first option, complete exemption from the Environmental Authorisation process can only be achieved if there is compliance with prescribed Norms or Standards. This is **allowed for** in terms of Section 24(2)(d) of the NEMA, which allows the Minister to exclude an activity from the requirements to obtain and Environmental Authorisation from the Competent Authority, but that must comply with prescribed norms or standards. Although no environmental authorisation would be issued, the Standard would, as a fundamental minimum, require site verification to be conducted prior to development, followed by a Compliance Statement confirming that, where applicable, impacts have been avoided/engineered out or as a minimum, that the proposed mitigation results in acceptable residual impacts. In the second option, streamlining would be achieved by undertaking a Basic Assessment instead of an EIA in compliance with the EIA Regulations, and potentially with adherence to Minimum Information Requirements. Minimum Information Requirements are **allowed for** in terms of Regulation 19 (3) of the 2014 NEMA EIA Regulations (as amended); and once developed, they would provide a regulatory framework for environmental monitoring, assessment and
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Part 1 – Gas Pipeline P12 L36–41 P1 L46 – 56 P14 L109 - 126	This Department supports the option of a shortened EIA (Basic Assessment) process, similar to the shortened process for renewable energy application that fall within the REDZ corridor.	
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Part 1 - Gas Pipeline	The gas pipeline corridors are 100km wide and just in the George area alone, a 100km corridor includes a diverse range of different ecosystems and receiving environments from the coast, coastal plateau, Outeniqua Mountains, Klein Karoo, Swartberg Mountains and part of the Central Karoo. The distinct linkages between these ecosystems in terms of its functionalities (rivers, ecological corridors, habitat distribution,	

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
			etc.), the cumulative impacts on the different biomes/habitats, broad scale ecological processes and biodiversity loss, must be quantified at the SEA level through the integration of the assessment findings. It is extremely difficult to provide meaningful comment at this level, knowing that no assessments will be done at a site-specific level and that the SEA findings will serve as the main informant over a 100km corridor stretch. This Department **does not support** the intention that no further assessments will be done at a site-specific level.	decision-making related to gas pipeline development. As indicated in the Draft SEA Report chapters that were released for Stakeholder Review, the options for streamlining the Environmental Authorisation process were under discussion, and only one of these approaches could be recommended and put forward at the end of this SEA Process. It is not believed that either of the above options lacks integrity as pre-assessment work has been undertaken as part of this SEA and mandatory compliance would be required with the EIA Regulations, and either the Standards or Minimum Information Requirements. These instruments would ensure that potential negative impacts are avoided or mitigated and that best practice measures are adopted. In addition, it is important to re-iterate that these decision-support tools will be tailored to a specific development and it would not apply to other sectors. Based on feedback received throughout the SEA Process and specific concerns regarding full Environmental Authorisation exemption, the SEA team has therefore recommended the second option i.e. streamlining the Environmental Authorisation Process to a Basic Assessment, with compliance with the EIA Regulations. It was planned to compile Minimum Information Requirements as a Decision-Support Output, however these are not required as the requirements of the 2014 EIA Regulations (as amended) are sufficient to address potential impacts of gas pipeline developments within the corridors.. Therefore, stakeholders, Interested and Affected Parties (I&APs) and government departments will have an opportunity to review and comment on the final pipeline route and to appeal once the Environmental Authorisation is issued. Where required, the Basic Assessment Report will be supported by specialist assessments to ensure that, at project-specific level, all relevant impacts stemming from gas pipeline development are assessed, avoided where possible or, as a minimum mitigated. One of the key requirements of the proposed Environmental Authorisation process is the need for ground-truthing in order to verify the findings of the SEA and actual on-site conditions at the time. This will also address any change in the environment between the publication of the SEA outputs and the actual commencement of development. Site visits will also assist with the micro-siting of infrastructure required during the construction and operational phases (i.e. specific location
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Part 1 – Gas Pipeline	Since the final alignment of the potential gas pipeline remains unknown, it is not possible to comment on this alignment before or when the SEA and Standards are gazetted. This eliminates the opportunity that potential interested and affected parties should have to participate and comment on the final route alignment. As there will be no Environmental Authorisation (EA) required, the responsibility to find the best practicable environmental option is given to the developer. This also removes the right to appeal since there will be no EA. Again it is reiterated that a fast-tracked EIA process (with concurrent water use, land use planning and mining use approvals) be undertaken to ensure that the general objectives of integrated environmental management are achieved. **Note from the CSIR**: This comment was also made on the following chapters of the Gas Pipeline SEA Report: ▪ Integrated Biodiversity and Ecology (Terrestrial and Aquatic Ecosystems, and Species Assessment Report) – Appendix C.1; and ▪ Biodiversity and Ecological Impacts (Terrestrial Ecosystems and Species) -	

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
			Succulent and Nama Karoo Biomes – Appendix C.1.4.	and impacts of access routes, site camps, laydown and storage areas, waste disposal and borrow pits). It is acknowledged that there are certain gaps that cannot be addressed at this SEA level, however it is important to note that these gaps do not detract from the relevance and importance of the findings of the SEA. The SEA has resulted in the identification of the optimum 100 km wide corridors for gas pipeline development based on an assessment and consideration of various features and constraints, such as environmental sensitivities, engineering constraints, energy demand, push factors, pull factors, findings of the specialists, and recommendations from the stakeholders. Additionally, it must be noted that the large size of the 125 km wide corridors were assessed at a strategic level to allow enough space and options to plan a gas pipeline route to avoid the most sensitive environmental features. The actual development width of a gas pipeline is approximately 50 m during construction. Vegetation would be able to re-establish after construction (and managed as required) - refer to Part 2 of the Gas Pipeline SEA Report for a description of typical gas pipeline development process and specifications. The Basic Assessment Process, undertaken in compliance with and informed by the various outputs of the SEA (i.e. Generic Environmental Management Programme, and Protocols is expected to address these gaps. A range of specialist studies were undertaken as part of the SEA Process, to identify and assess the potential environmental and social risks associated with the proposed infrastructure within the corridors (refer to Appendix C of the Gas Pipeline SEA Report). The Terrestrial Ecosystems and Species Assessments (Appendix C of the Gas Pipeline SEA Report) have been broken down into specific biomes in order to focus the assessment, and have been compiled by specialists that have in-depth knowledge and expertise on these biomes. The findings of these studies have been consolidated in an Integrated Biodiversity Assessment (Appendix C.1 of the Gas Pipeline SEA Report). The Specialist Assessments undertaken in this SEA have applied the widely recognised mitigation hierarchy (i.e. avoid, mitigate/manage, rehabilitate, offset) to minimise or negate negative impacts, and maximise positive impacts of infrastructure development. Therefore, the impacts identified and mitigation measures recommended are expected to be well informed and adequate for this level of assessment. The Generic Environmental Management Programme (EMPr) for gas pipelines
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Part 1 – Gas Pipeline Page 10 – 11 Section 2.3.3.3	It is noted that Greenhouse Gas (GHG) Emissions can only be finalised at a project-specific level, once a specific transmission gas pipeline route has been determined and a detailed design analysis undertaken. This Department therefore believes that the SEA should result in a shortened EIA process (similar to the REDZ process).	
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Integrated Biodiversity Chapter – Gas Pipeline Page 18 Lines 14 - 15	"*No fieldwork was done and no additional raw data were collected and/or processed*." The need for additional information through a shortened EIA process becomes apparent again as the biodiversity in some areas may have changed when pipeline construction commences.	
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Integrated Biodiversity Chapter – Gas Pipeline	The developer will decide on a route for the pipeline within the 100km wide corridor and apply the Norms/Standards/Protocols (which would detail management actions regarding sensitive features or species). There will be no public participation for the determination of the final alignment of the pipeline or power line within the proposed 100km wide corridor. As such and in terms of consultation, there will only be land negotiations between the developer and the landowner. It is reiterated that a strategic environmental assessment does not provide the level of detail required to avoid, minimise and mitigate potential negative impacts. High-level strategic assessments are encouraged, specifically with regards to cumulative impacts, but it cannot and should not replace site specific environmental impact assessments. The cumulative ecological impacts have been rated as	

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
			low in terms of risks, and moderate in terms of consequence (with mitigation), but represents the impacts at strategic level/scale.	also stipulate the best practice measures and management actions that need to be implemented on a project specific scale.
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Integrated Biodiversity Chapter – Gas Pipeline	It is evident from the SEA that the mitigation hierarchy could not be applied at this level of assessment and that all risks and impacts associated or applicable to all six gas pipeline corridors must be subjected to an impact assessment process (EIA) to enable the relevant competent authority to decide that the proposal will not have an unacceptable negative impact on specifically species of conservation concern populations, both locally and regionally. The appropriate measure to mitigate these impacts can only be determined at an EIA level through the application of the mitigation hierarchy. However, it is understood from the authority consultation workshop and responses to concerns raised that the appropriate pipeline routes/alignments will only be determined by means of consultation between the developer and landowner, which defeats the purpose and application of the mitigation hierarchy.	Even though biodiversity impacts may be unavoidable when developing large-scale projects such as a national-scale network of gas pipelines, impacts to local and regional biodiversity assets can be substantially reduced through careful strategic level planning and design which consider areas of concern. Therefore, the outcome of the SEA will be used to inform the project level assessments and to determine the best potential route for the gas pipeline (both from a social/environmental perspective and engineering constraints), once specific projects are identified. Cumulative impacts (such as habitat/biodiversity loss, broad-scale ecological processes, estuarine connectivity and functioning etc.) have also been acknowledged in the SEA Report but will be considered on a more relevant scale during the project-specific stage, once actual pipeline routings have been identified. Various mitigation measures have been provided in the relevant specialist studies to address the above cumulative impacts.
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Fynbos Biome Chapter – Gas Pipeline Pages 12 – 13 Section 3.2	It is evident that there are numerous gaps in knowledge which cannot be addressed at the level of a strategic environmental assessment. It is therefore recommended that an assessment be done at a level where these gaps can be addressed (e.g. at an EIA level).	
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Nama Karoo, Succulent Karoo And Desert	The gas pipeline corridors are 100km wide and just in the George area alone, a 100km corridor includes a diverse range of different ecosystems and receiving environments from the coast, coastal plateau, Outeniqua Mountains, Klein Karoo, Swartberg Mountains and part of the Central Karoo. The distinct linkages between	

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		Biomes Gas Pipeline Page 11 Lines 2 - 19	these ecosystems in terms of its functionalities (rivers, ecological corridors, habitat distribution, etc.), the cumulative impacts on the different biomes/habitats, broad scale ecological processes and biodiversity loss, must be quantified at the SEA level through the integration of the assessment findings. It is extremely difficult to provide meaningful comment at this level, knowing that no assessments will be done at a site-specific level and that the SEA findings will serve as the main informant over a 100km corridor stretch. This Department **does not support** the intention that no further assessments will be done at a site-specific level. The specialist highlighted that one of the shortcomings of the report is that no field assessment was undertaken. The heterogeneity or state of diversity is also pointed out as being inappropriate for fine-scale analysis and interpretation such as provisional routes. The report also submits that the threat status of most invertebrate groups was not assessed according to the IUCN criteria. A further limitation was that some datasets are outdated, or lacking data for certain areas of ecological importance within each biome. These shortcomings confirm that the information presented in the report is based on assumptions at a strategic scale/level and lacks site-specific detail. The key impacts according to the report will mainly be removal of vegetation and disturbance of soils within the pipeline servitude, damage to sensitive ecosystems, displacement of fauna and habitat destruction/fragmentation and impacts associated with maintenance activities and continued habitat loss.	
Gerhard Gerber	Western Cape DEADP,	24 June 2019, Email	The proposed management actions relating to planning and construction leaves too much	

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
	Development Facilitation	Nama Karoo, Succulent Karoo And Desert Biomes Gas Pipeline Pages 48 – 49 Line 1 Table 7	uncertainty as to the effectiveness of the measures proposed to avoid and minimise the identified potential impacts. The SEA does not allow for mitigation at this scale and the need to assess impacts at ground or site-specific level becomes necessary to confidently state that the impacts will be insignificant and appropriately mitigated. The management actions proposed by the specialist confirms that mitigation heavily depends on ground assessments and pre-construction walk-through	
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Nama Karoo, Succulent Karoo And Desert Biomes Gas Report Page 55 Line 6 Table 9	It is evident from the Impacts and Risk Assessment Table (Table 9) that the impacts and risks associated with the removal of vegetation (including impacts on plants of species and conservation concern) and habitat loss are as rated high negative. These constitute direct impacts that will result from vegetation removal/clearance activities and habitat loss for the establishment of development infrastructure. It is however submitted that the aforementioned impacts represent impacts at a strategic level/scale. As such, the impact significance at a site-specific level/scale may potentially be rated high to very high, with a consequence level of severe to extreme. DEAs intention is to gazette the corridors and then later (separately) gazette standards for the gazetted corridors. Once the corridors and Norms/Standards/Protocols are gazetted, there will be no requirement for an EIA before a developer constructs a gas pipeline. The significance of the impact at EIA or site-specific level will remain unknown, which represents a fatal flaw in the assessment approach. It is important to note that should the Norms/Standards/Protocols be applied, the impacts and significance thereof must be known, beforehand.	

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Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Albany Thicket Biome – Gas Pipeline Page 27 Line 3 Table 13	The proposed management actions for the identified key impact (habitat destruction and degradation) also depend on ground assessments and verification before construction, which is not likely to occur, considering the approach that no EIA will be conducted for the pipeline alignment, but that Norms/Standards/Protocols will apply. Again, this is an alarming concern, as this approach can only be followed where the impacts are known.	
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Albany Thicket Biome – Gas Pipeline Page 30 Line 1 Table 15	Habitat destruction/disturbance and the increased risks of spread of alien invasive plants have been rated severe consequences and high risk with mitigation. The consequence and risks at a site-specific level could potentially be rated higher, considering that these ratings are based/assigned at an SEA scale/level.	
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Estuaries – Gas Pipeline Pages 33 – 35 Section 4.8 Figures 13 and 14	According to the sensitivity mapping information provided in the specialist study, all estuaries are regarded as systems of very high sensitivity based on one or more of the listed criteria in Table 3. The relative sensitivity for Phase 1 gas pipeline varies from very high, high to medium and low. Coastal seeps, wetlands and rivers adjacent or just above the estuaries, within a 5 km buffer around the Estuary Functional Zone (EFZ), are deemed zones of high sensitivity as they directly influence the quality and quantity of freshwater and sediments entering estuaries. The coastal seeps, wetlands and rivers adjacent or above the estuaries, within the 5 to 15 km buffer around the EFZ, are zones of medium sensitivity as they indirectly influence the quality and quantity of freshwater and sediments entering estuaries. The	

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			potential impact on these in terms of direct estuarine vegetation loss, fragmentation of estuarine dynamics, and sedimentary processes and stormwater runoff causing enhance flows remain a big concern, especially if the impacts at a site specific-level are not assessed and mitigated accordingly. The major activities referred to in the specialist study (i.e. development of access roads to enable construction and ongoing maintenance) and resultant impacts can only be determined at an EIA level, once the final alignments of pipelines within the corridors have been established. Although the potential mitigation measures are noted in the specialist study, the potential mitigation measures proposed are however at an SEA level, which implies that these are done in a vacuum, as the site-specific identified impacts are not known at this scale/level, as it can only be determined or assessed at an EIA site-specific level to ensure that the mitigation measures proposed are appropriate for the level/scale at which the activity will be implemented.	
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Rivers and Wetlands – Gas Pipeline Page 100 Lines 2 - 31	The information states that species occurrence data is only based on known records, and does not account for the true distribution of species. The Department believes that a broad assessment like the SEA is not sufficient for the impacts associated with the magnitude of the proposed development. As previously stated, once the corridors and standards are gazetted, there will be no requirement for an EIA before a developer constructs a gas pipeline. The significance of the impact at EIA or site-specific level will remain unknown, which represents a fatal flaw in the assessment approach. It is important to note that should the Norms/Standards/Protocols be applied, the impacts and significance thereof must be known,	

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			beforehand. The lack of assessment of the cumulative impacts of the proposed development remains a huge concern. Although it is noted that biodiversity impacts associated with the proposed development are unavoidable, this Department believes that the impacts, if assessed at an appropriate level, can be mitigated or remedied. This includes mitigation measures taken to reduce the duration, intensity and/or extent of impacts that cannot be completely avoided. Effective minimisation can eliminate some negative impacts. This can only be achieved at a site-specific level.	
Siphokazi Ncume	City of Johannesburg, Environment and Infrastructure Services Department	27 June 2019 General	**CONCLUSIONS AND RECOMMENDATIONS OF THE SPECIALIST STUDIES** Sensitivity maps and desktop analyses can be used for any other project that is planned within the corridor.	**Response from the CSIR**: Kindly note that the buffers allocated to features, as well as the associated risks and impacts have been done to specifically reflect the impact that the gas pipeline will have on the environment. The SEA Report and findings can be used to inform other developments, whether it be in terms of generic best practice measures or management actions.
Siphokazi Ncume	City of Johannesburg, Environment and Infrastructure Services Department	27 June 2019 General	It should be noted that the Department will be in a position to make informed recommendations when the actual alignments within this region have been determined and mapped.	**Response from the CSIR**: This comment is noted.
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Part 2 – Gas Pipeline Page 8 Lines 3 – 4 Lines 102 - 103	The development of access roads of 8 – 10 m in width may trigger listed activities (e.g. Activity 4 of Listing Notice 3). It is essential that all applicable listed activities are considered and authorised. The establishment of borrow pits would require authorisation from the Department of Minerals and Energy.	**Response from the CSIR**: This comment is noted. All applicable listed activities in terms of the 2014 Environmental Impact Assessment (EIA) Regulations or regulations applicable at the time, would be considered and assessed in the streamlined Environmental Authorisation Process. Further explanatory notes have been included in Part 2 of the SEA Report, in this regard.

2.11. Leaks, Accidents, Fugitive Emissions, Greenhouse Gas Emissions, Climate Change and Justification for Gas Pipeline

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Mr. Paddy G. Norman	WESSA, Southern Kwazulu-Natal and Coastwatch	31 May 2019, Email General	As far as I am concerned, the critical factor in this SEA process is the requirement to show that the development of a nationwide gas infrastructure is justifiable: ▪ Firstly, that the environmental impact of gas development and utilisation is quantifiable and will not contribute to global warming and its long term negative impacts. Given the Precautionary Principle required by NEMA, and given the recent fatalities due to climate events, this requirement is not negotiable. ▪ Secondly, that the capex of ALL the required infrastructure and associated activities, including prospecting and extraction, could not more beneficially be applied as an investment in "green energy". ▪ Thirdly, that the potential vulnerabilities of pipeline and other associated infrastructure to both human and natural damage can be managed within South Africa's socio-economic constraints. Given the level of service delivery protests gas pipelines could become sitting ducks, and consequently will rapidly evolve into rogue white elephants. ▪ Fourthly that the infrastructure will provide direct and sustainable benefits for ALL the affected local communities. ▪ Fifthly, that the alternative of moving large-scale consumers closer to the energy source, thereby minimising both infrastructure capex and risk, is not viable. ▪ Sixthly, that the economic benefits will predominantly accrue to South Africa, and not be transferred offshore to benefit non-residents. ▪ And finally that the long term economic benefits significantly outweigh the real costs of all the negative environmental and social impacts. It would appear that due to inadequate data most of	▪ <u>Response to Point 1 from the CSIR</u>: Parts 1 and 2 of the Gas Pipeline SEA Report include a motivation for the phased gas pipeline network. According to the Department of Energy (DoE) (2018), natural gas presents a significant potential in the energy mix. Gas/Diesel has a 3 830 MW installed capacity as at 2019, with an additional capacity of 3 000 MW by 2030 (equating to 6 830 MW capacity by 2030. It is understood and acknowledged that the Integrated Resources Plan is contested by various stakeholders, however the concerns regarding the energy mix, especially the contribution made by natural gas and its environmental impacts, cannot be addressed as part of this Gas Pipeline SEA. The Gas Pipeline SEA is therefore based on the understanding that by 2030 gas will contribute more towards the energy mix and the need for gas pipelines would therefore increase. One of the objectives for this SEA is to ensure that when such a need arises, the timeframes required for the necessary Environmental Authorisation processes do not pose a delay towards the development of gas pipelines, whilst still maintaining a high level of environmental rigour. Therefore, the SEA Process aimed to streamline the Environmental Authorisation process for gas pipeline development within the corridors (once gazetted) based on the pre-assessment that has been undertaken during the SEA, and that a Basic Assessment Process will still be undertaken for such development in compliance with the Generic Environmental Management Programme (EMPr). Therefore, the environmental impacts of each gas pipeline project will be assessed as part of project specific Environmental Assessments. It is also important to note that this SEA does not consider any activities that are needed to source the gas and get the gas into the transmission pipeline. It is understood that such activities will be covered by separate Environmental Authorisation processes, whereby the environmental impact of gas development and utilisation will be assessed at a project specific scale. Furthermore, there is no guarantee that all or any of the gas pipeline phases will be developed. A gas pipeline will only be developed if there is a viable business case and if there is a

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			these issues are not comprehensively addressed in the reports which I was able to access in the time given. Please ensure these comments are recorded in your minutes and in the full report.	guaranteed source of gas and confirmed off-taker. ▪ <u>Response to Point 2 from the CSIR</u>: As noted above, concerns regarding the energy mix, especially the contribution made by natural gas, cannot be addressed as part of this Gas Pipeline SEA. South Africa is committed to reducing carbon emissions as per the consideration of renewable energy in the energy mix (refer to the Final Integrated Resources Plan (IRP) (Department of Energy (DoE), 2019)). In addition, the Gas Pipeline SEA does not consider any activities or impacts associated with offshore or onshore exploration of gas. All activities undertaken to source the gas and get the gas to the customers via distribution or reticulation networks would be subject to separate Environmental Authorisation processes. This Gas Pipeline SEA only considers the onshore gas transmission pipelines extending from the supply point to the delivery point (usually an anchor point, such as an Industrial Development Zone or Power Station). ▪ <u>Response to Point 2 from iGas</u>: As per the response to Eric Stratford from Cheric Energy in Response 37 of Section 1 of this chapter above (Appendix A.7.10), as extracted from Table 5, page 42 of 98 of the Final IRP 2019: In addition to the currently installed capacity of 1,474 MW Solar Photovoltaic (PV) Power, 1,980 MW Wind and 300 MW of Concentrated Solar Power (CSP) generation capacity, totalling 3,754 MW of RENEWABLE energy, and the currently committed/contracted capacity of 814 MW Solar PV, 1,362 MW Wind and 300 MW CSP, totalling 2476 MW, the new additional RENEWABLE energy capacity planned until 2030 is 6,000 MW Solar PV and 14,400 MW Wind totalling 20,400 MW. By 2030, this will bring the total installed RENEWABLE energy capacity to 26,630 MW. If Hydro is added, the current installed capacity is 2,100 MW with new additional capacity of 2,500MW resulting in a total of 31,230 MW of RENEWABLE energy generation capacity by 2030. In comparison, the current installed capacity for Gas/Diesel is 3,830 MW with New Additional Capacity of 3, 000 MW and a total of 6,830 MW by 2030.

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				Gas is therefore not being proposed as an alternative or replacement for RENEWABLES, but to compliment RENEWABLE energy when it is not available. At this point in time, the technology does not exist to baseload the country on renewable energy, supplemented by battery storage. The Phased Gas Pipeline Network will work within the bounds set by the IRP for power generation capacity. Regarding industrial use, the markets targeted will be replacement of Heavy Fuel Oil, Coal and LPG. South Africa will require a mix of and balance between all energy types to meet its energy needs and tax payer's money will not be used to build this infrastructure. It will be developed based on a viable business case. ▪ <u>Response to Point 3 from the CSIR</u>: It should be noted that gas pipelines do already exist in South Africa. This includes the 865 km ROMPCO pipeline from Sasol's Pande and Temane gas fields in Mozambique to Secunda. From Secunda, Sasol transmits the gas to Sasolburg and to other industrial users in Gauteng via the Sasol Gauteng Network Pipeline (GNP) and Sasol Gas Transmission Network (GTN). From Secunda, Sasol also transmits the gas to Middelburg in Mpumalanga via the Sasol Methane Rich Gas Transmission Network (SWM). Another gas pipeline includes the Lilly Pipeline, in which Transnet transmits Methane Rich Gas (MRG) from Secunda to Richards Bay and Durban. Background on these gas transmission pipelines and operational risks and lessons learnt are captured in Parts 1 and 2 of the Gas Pipeline SEA Report. Therefore, based on this, it seems that the potential vulnerabilities of gas pipelines and associated infrastructure can be managed within South Africa. In terms of funding, a gas pipeline development will be based on a viable business case, a guaranteed source of gas and a demand. If a customer requires the supply of gas and there is the availability of a project developer and gas source, then the customer will pay for the project development (construction of the pipeline). The project developer will build, own and invest in the pipeline, and recover the costs from the customer through tariffs for the transportation of gas. The tariff is regulated by the National Energy Regulator of South Africa. It will not be paid through government funds.

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				Therefore, if there is a potential disaster resulting from the gas pipeline, this will need to be addressed by the pipeline owner, in collaboration with the local government. With regards to public health and safety, the Gas Pipeline developments will be designed according to best practice measures, as well as national and international standards. The Settlement Planning, Disaster Management and related Social Impacts chapter of the Gas Pipeline SEA Report (Appendix C.3) considers key social, settlement planning and development considerations relevant to the development of the gas pipeline corridors. This chapter also assesses key Health and Safety impacts associated with the operation of a gas transmission pipeline, and potential pipeline leaks or fires. Adequate mitigation measures have been provided for these impacts. Disaster Management (DisM) and the relevant capability of the affected municipalities to address and/or respond to a disaster is outlined within this assessment. Various measures have been included within the Best Practice Guidelines (Section 10) to identify and address the DisM capabilities that would be required to appropriately respond to a disaster. Any response to a disaster would require collaborative input from the affected local government and the Developer. In addition, it should be noted that from a safety perspective and to prevent vandalism, the gas pipeline will be routed below ground, instead of above ground. The top of the pipeline will be about 1 m below ground, and pipeline markers (with adequate warning signage) will be placed every 1 km along the route above ground. A below ground pipeline will hinder the potential for intentional vandalism and tampering. Nonetheless, the surrounding land users will be made aware of the dangers (and potentially lethal consequences) of tampering with or vandalising the gas pipeline infrastructure. The recommendation for a public awareness campaign during the construction phase has been included in the Generic Environmental Management Programme (EMPr). In addition, the Settlement Planning, Disaster Management and related Social Impacts Report (Appendix C.3 of the Gas Pipeline SEA Report) has also recommended that a Monitoring Forum should be developed to monitor the implementation of the

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				recommended mitigation measures. The forum should include key stakeholders, including representatives from the relevant local municipalities, farmers, local farming unions, local community representatives etc. The forum should also be briefed on the potential risks to the local community and farm workers associated with the pipeline. ▪ **Response to Point 3 from iGas**: The design of gas pipelines caters for and guards against natural damage. However, wilful damage by criminal elements cannot be 100% guarded against. ▪ **Response to Point 4 from the CSIR**: In any large scale developments carried out in South Africa, the probability of such infrastructure providing direct and sustainable benefits for **all** affected local communities is limited. If this recommendation is required for the proposed gas pipeline developments within the corridors, then it should also apply to other developments undertaken in South Africa. This being said, efforts have been made to ensure that local communities will benefit from the development, should they be affected by it. Various recommendations have been included in the Settlement Planning, Disaster Management and related Social Impacts chapter of the Gas Pipeline SEA Report (Appendix C.3) and Generic EMPr, such as ensuring that contractors implement a 'locals first' policy for construction jobs, specifically for semi and low-skilled job categories. Any potential job creation would be temporary during the construction phase, as mentioned on numerous occasions during stakeholder engagement (if the construction of the proposed pipeline does materialise, the extent of such jobs would be determined per project, based on its business case). The exact transhipment/distribution points or employment likely at these points and relative quantity and cost of gas cannot be specified. This level of information would only be available on a project specific basis. It should be noted that during the construction of the ROMPCO pipeline in Mozambique, due to the remoteness of the area, the project developer needed to install fibre cables in the pipeline trench to assist with internet connection requirements during the construction and operations. The surrounding local communities

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				were provided with access to this connection as well. ▪ **Response to Point 5 from iGas**: Gauteng is the industrial hub of South Africa. It is cheaper to transport energy to Gauteng than to relocate all of those industries closer to energy sources. The decision to relocate large scale consumers closer to the energy source is a decision for the energy consumer, not for the energy provider. Furthermore, it may not be possible to relocate some of these consumers e.g., mines as their operations are location specific. In addition, most Gas to Power Plants are located in proximity to major ports or in areas where gas can be delivered easily (i.e. close to the source). Coastal locations for these plants are also preferable because of the higher efficiency associated with a lower altitude. ▪ **Response to Point 6 from iGas**: Accrual of economic benefits predominantly to South Africa will depend on who develops the infrastructure and what their terms of those developments are. ▪ **Response to all points (specifically Points 5, 6 and 7) from the Gas Opportunities Analysis Specialist Author**: An economic impact study supported by an economic model of the South African economy would be required to unpack the allocation of economic, environmental and social benefits and costs. Such a study does not fall within the scope of this process.
Nicola Botha	Private	2 May 2019, Email General	I object to gas pipeline in South Africa and the gas pipeline will leak methane gas out the pipe.	**Response from the CSIR**: Your concerns are noted. This issue was already raised by stakeholders prior to the review process and additional information regarding potential leaks and Greenhouse Gas (GHG) emissions were therefore provided in Part 2 (Section 2.3.3) of the Gas Pipeline SEA Report. It is recognised that under normal pipeline operating conditions, GHG emissions are most likely to occur as a result of pigging operations and compressor station operations (note that the latter has not been considered in this SEA Process). Under **abnormal** pipeline operating conditions however, product releases linked to leaks or ruptures, although of low probability, may constitute a considerable safety risk for surrounding communities. As noted in Part 2 of the SEA Report, the pipeline will be an all-welded system built up to recognised international standards, so there is no possibility of leaking from flanges or failed gaskets. Adequate design

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				and mitigation measures have also been included in the Gas Pipeline SEA Report and Generic Environmental Management Programme (EMPr). Some of the key design and mitigation measures are indicated below: ▪ Block valves will be installed every 30 km along the pipeline route in order to close a specific section of the line in the event of a leak (i.e. to close two valves on either side of the leak). ▪ Maintenance activities will include pigging, cleaning, and inspections. Pigging is essentially used for cleaning, maintaining and inspecting the pipelines, as well as to detect areas of degradation, corrosion and defects in order to prevent leaks. ▪ During the operational phase, the pipelines will be monitored through a suitable system to manage and monitor the transmission of the gas through the pipeline. Flow rates through the pipeline, operational status, pressure, and temperature readings may all be used to assess the status of the pipeline at any one time. This enables quick reactions to equipment malfunctions, leaks, or any other unusual activity along the pipeline. ▪ Natural gas detecting equipment will also be periodically used by pipeline personnel on the surface to check for leaks.
Adrian Stone	City of Cape Town, Energy & Climate Change Directorate	19 June 2019, Email General	Are fugitive emissions considered in the study?	**Response from iGas**: These emissions are accidental and greatly depends on operational procedures. Vast amount of fugitive emissions take place in power plants, factories and similar industrial settings. These emissions are not specifically assessed in this SEA; however comprehensive studies will be performed on a project specific basis. It is recognised that it is imperative that such studies be undertaken as these emissions also contribute to climate change and air pollution. Part 2 of the Gas Pipeline SEA Report provides significant detail on potential leaks from gas pipelines, which are covered in this SEA, as well as associated design and mitigation measures. These are stipulated in the responses provided above.
Shaazia Bhailall	City of Cape Town, Energy & Climate Change Directorate	19 June 2019, Email General	Has climate change effects been considered in the sensitivity analysis? There are very good GCM's that have been used to determine the impact of climate change on the different biomes. This should be considered as the current areas chosen might change drastically in 10 years time when the pipeline is ready to be installed.	**Response from the CSIR and SANBI**: Climate change models have not specifically been incorporated into the sensitivity analyses. However, through Critical Biodiversity Areas (CBAs), what has been included are areas in the landscape that act as climate change resilient areas, from an ecological point of view and therefore are of very high sensitivity and should be avoided at all cost. These climate change resilient areas are of course the ones that will be the most stable, not the areas where there will be the most change. The GCMs identify, broadly, where these

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				areas of change will be. It is noted that these are important, but that it is difficult to predict, as the global models, when down scaled to fine scale planning for infrastructure such as a gas pipeline, the models do get inaccurate. Therefore, it is recommended that these climate impacts be assessed when the pipeline route has been identified and is being designed during the project specific stage and not as part of the SEA as some of the models show change at broader scales than the corridors. Furthermore, the SEA assigns sensitivity to specific features, if there are biome shifts or features that changed because of climate change, the sensitivity of the feature that is on the ground at the time of assessing the pipeline route is what should be applied. Further to the above, a summary of high level climate related impacts including potential areas prone to coastal flooding and climate change have been included in Part 4.2.8 of the Gas Pipeline SEA Report, based on the Green Book online tool developed by the CSIR.
Desmond D'Sa	South Durban Environmental Community Alliance	24 June 2019, Email General	**Accidents, explosions, gas leaks and disaster management plans** Once a pipeline is built, the landowners along the path of the pipeline, or next door to a compressor station will have no choice but to accept living with the constant risk of accidents, and explosions. Several large pipeline failures in the past few years, leading to massive damage and even loss of life, have highlighted this risk. Pipelines can break open and leak. When this happens, the liquid or gas which leaks out can explode and cause fires. Or it could poison water, crops, land and air. When a person is near a leak from a pipeline, he or she may feel tiredness, dizziness, headaches, nausea and/or vomiting and difficult breathing. A person may lose consciousness, and could even die. Gas from leaking pipelines may over a long time even cause diseases like cancer and leukaemia (*please annexure 1 for health study*). On December 24, 2001, a methane rich pipeline exploded in Tongaat, South Africa. A nearby school was almost destroyed, and homes were affected (*Please annexure 2 for list of incidents*). We demand that a proper health study be conducted, there also needs to	**Response from iGas:** Servitude and design requirements are different based on whether the pipeline is for transmission, distribution or reticulation. A transmission pipeline or any of its associated infrastructure must be 1 km away from settlements. Any land owner entering into a servitude agreement will be cognisant of the requirements to avoid risks associated with leaks and will do so by his own will. In the eventuality that there is major leak or rupture, the 30 km pipeline section will immediately shut off and be isolated. It is important to note that from the developer's perspective, a leak implies that money is being lost. As such it is in their interest to ensure that all gas is flowing and not lost during the process. The developer will maintain the pipeline on a regular basis to keep it in working order. It is the business principle of a transmission pipeline to ensure safety of the product inside which fundamentally means monitoring and maintaining the pipelines. It is cognisant to note that the ROMPCO pipeline which transports natural gas from Mozambique to Secunda in South Africa has been commercially operational for about 15 years and no major leaks or ruptures have been reported. South Africa already has operational excellence for transmission pipelines and the only leaks which poses an environmental threat are those associated with vandalism.

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			be a risk assessment done and a proper and adequate disaster management plan which must include a contingency plan. Conclusions Finally, SDCEA is at the coal-face of the largest oil refinery complex in Africa. We have witnessed countless explosions, leaks and other pipeline accidents. For the sake of local air, water and land quality, and for future generations whose lives are threatened by the climate emergency, the authors of the SEA owe South Africa far higher levels of consciousness about the risks of massive gas piping infrastructure in this, the most unequal society on earth.	Response from the CSIR: With regards to public health and safety, the Gas Pipeline will be designed according to best practice measures, as well as national and international standards. The pipeline will be designed according to the surrounding land uses. For example, if the pipeline needs to be routed close to settlements, the design specifications will be more stringent, such as ensuring that there is a thicker pipeline wall etc. With this being said, the important comments raised by Mr. D'Sa have been taken into consideration. In this regard, it has been recommended as part of the Generic Environmental Management Programme (EMPr) that Social and Health considerations be undertaken during the project specific stage, once specific projects and pipeline routes have been identified, where they run in proximity to populated settlements. It is important to re-iterate that a Settlement Planning, Disaster Management and related Social Impacts Assessment has been undertaken and is included in Appendix C.3 of the Gas Pipeline SEA Report. The assessment assesses Health and Safety impacts associated with the operation of a gas transmission pipeline and addresses disaster management. Various measures have been included within the Best Practice Guidelines (Section 10) to identify and address the Disaster Management (DisM) capabilities that would be required to appropriately respond to a disaster. Any response to a disaster would require collaborative input from the affected local government and the Developer. A Disaster Management Plan and Spill Contingency Plan will be compiled for each project on a project specific scale, once the routes have been identified. In addition, it is required to undertake a Major Hazard Installation (MHI) Risk Assessment in terms of the Occupational Health and Safety Act (Act 85 of 1993) prior to development of the gas pipeline. The above recommendations have been stipulated in the Generic EMPr, as applicable. It is also important to note that the list of chemical incidents based on a number of articles provided in Annexure 2 by SDCEA has been reviewed by the Project Team. Based on the information provided and based on additional research, the majority of the articles listed relate to pollution

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				of environmental systems and associated health impacts as a result of effluent and chemical spillages and emissions as a result of nearby industries and settlements, such as fertilizer manufacturing companies, fresh produce companies, oil refineries, petrol stations, paper mills, petrol transport companies, and liquid fuel pipelines. These incidents do not all relate to gas pipeline operations. However, lessons learnt from previous gas related incidents will be taken into consideration in the design and contingency plans for the gas pipeline developments, during the project specific stage. Part 2 of the Gas Pipeline SEA Report includes feedback on various incidents that have occurred on existing gas pipelines in South Africa. This information gives an idea of the likelihood and frequency of potential incidents. In compliance with licences issued by the National Energy Regulator of South Africa (NERSA), incidents need to be reported by the Pipeline Operator to NERSA. Therefore, NERSA monitors incidents in terms of their mandate. In addition, research indicates that the December 2001 gas pipeline incident in Tongaat occurred as a result of a landslide. It is important to note that the Pipeline Operator was required to implement mitigation measures following the incident, including a stakeholder awareness campaign. Such recommendations have been included in the Generic EMPr. Furthermore, a geotechnical analysis will be undertaken prior to development during the project specific stage in order to determine areas of concern from a geotechnical perspective. In addition, the Seismicity Assessment (Appendix C.2 of the Gas Pipeline SEA Report) has also considered landslide hazards within the corridors. As noted in the Seismicity Assessment, it is understood that all infrastructure will be built with appropriate mitigation measures, such as: ▪ Pipelines will be built to most recent applicable international standards; ▪ Pipelines will be equipped with valves that will stop gas flow in a specific section if there is a significant drop in pressure; ▪ Sites prone to landslides, lateral spreading and liquefaction will be identified. The sites will either be avoided; or the pipeline will be strengthened or made more flexible as deemed appropriate; or the ground will be improved; or some combination of the above measures will be implemented.

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				The Seismicity Assessment also recommends that the following areas should be identified as they are considered to be sensitive: ▪ Steep topography prone to landslides; ▪ Thick near-surface low-seismic-velocity layers that could cause site amplification; or ▪ Problem soils and sands that could collapse or liquefy when shaken. The Seismicity Assessment further recommends that geological and geophysical investigations be conducted in these sensitive regions to quantify the hazard of landslides, strong ground motion or liquefaction. Such assessments and surveys will be undertaken during the project specific stage once a specific gas pipeline route has been identified. Furthermore, should these surveys indicate that there is a significant probability that gas pipeline damage thresholds will be exceeded, the gas pipeline could either be relocated, reinforced or protected (e.g. landslide mitigation measures noted above).
Richard Worthington	Friedrich-Ebert-Stiftung	6 May 2019, Email General	I was rather dismayed to see recent output of the SEA for the Gas Pipeline and Electricity Grid Infrastructure Expansion. In the 'Gas pipeline SEA' – doc linked below – which is ostensibly a Specialist Assessment and includes consideration of impacts the words leak, leakage and fugitive [for methane] do not appear at all! While I realise that the focus here is on the location and routing of pipelines, and thus the merits of gas vs other energy options are not in the scope, this doc does note under Potential Benefits (page 30): "Environmental benefits through a reduction in CO2 emissions: LNG is likely to grow in importance as a fuel of the future due to its lower CO2 emissions when compared to coal and petroleum liquids." The CSIR does invite comment on the docs, but I thought I'd mention this to you, too, as I understand it is DEA who commissioned CSIR to undertake the SEA, yes?	<u>Response from the CSIR</u>: The SEA is focused on identifying the best possible 100 km wide corridors from an environmental and engineering perspective, so that the developers can identify the best possible routes during the project specific stage. Therefore, this study did not assess specific pipeline routes. As correctly indicated in the comment, the SEA Process does not assess the opportunities and constraints of gas against other energy sources. Information regarding the energy mix is discussed and addressed in detail in the Integrated Resources Plan and information presented in the report regarding Renewable Energy, Nuclear Energy and Coal are provided for background purposes in Part 1 of the Gas Pipeline SEA Report. Appendix 1 of the Gas Pipeline SEA Report includes a Gas Opportunities Analysis that aims to identify opportunities regarding potential bulk users of gas in South Africa and to identify potential benefits that could be realised to South Africa as a result of selected bulk users making greater use of gas in the future. Appendix 1 notes that: "*LNG is likely to grow in importance as a fuel of the future due to its lower CO_2 emissions when compared to coal and petroleum liquids*". This statement does not refer to the life-cycle CO_2 emissions of gas but rather emissions associated with fuel combustion and electricity generation only. However, the concerns raised around leakages from

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			With the US EPA having found that leakage rates of 2.8% (well to point of use) would render the life-cycle CO2 emissions of gas equivalent to those of coal, surely they should at least note this as an important issue? ***Note from the CSIR**: This comment was submitted directly by the commentator to the National Department of Environmental Affairs (DEA).*	gas pipeline rendering the life-cycle CO_2 emissions of gas equivalent to those of coal are acknowledged. Potential leaks and associated GHG emissions is discussed in **Part 2 (Section 2.3.3) of the Gas Pipeline SEA Report**. The specific source of the following statement is unclear: "US EPA having found that leakage rates of 2.8% (well to point of use) would render the life-cycle CO_2 emissions of gas equivalent to those of coal". Further research indicates that this may be based on a study commissioned by Greenpeace in the United Kingdom in **1990**[20], which concluded that a "leakage of 2.8% would cancel any greenhouse advantage of gas over fossil fuels like oil and coal". It must be noted that the major source of natural gas losses from local distribution systems at that time was cast iron distribution pipes, with most of these pipes installed prior to the 1950s. Actual leakage rates from cast iron pipelines also varies around the world. Natural gas production, processing, transmission, storage, and distribution all involve some leakage of methane into the atmosphere and given the high global warming potential of methane, these need to be carefully weighed against potential CO_2 reductions from displacing coal-based generation (US EPA, 2019[21]). In 2011, the US EPA[22] reported that "estimates of life-cycle CH_4 leakage rates from natural gas systems were reduced from 2.8 % to 1.65 %". Furthermore, careful analysis of lifecycle emissions for both fuels has found that natural gas is responsible for less than half the emissions of coal-based generation (US EPA, 2011). The US EPA Inventory of US Greenhouse Gas Emissions and Sinks (US EPA, 2019) notes that in the United States in 2017, natural gas systems were the second largest anthropogenic source category of methane emissions and that these emissions have decreased by 14.2 % since 1990 mainly as a result of the reduction in emissions from distribution, transmission and storage systems. A number of studies and reports have been reviewed in this regard and while some support this concern, i.e. that any leaks from infrastructure

[20] Article "*Natural Gas Transmission Leakage Rates*" dated 2016 accessed online: https://www.sourcewatch.org/index.php/Natural_gas_transmission_leakage_rates
[21] United States Environmental Protection Agency (2019). *US EPA Inventory of US Greenhouse Gas Emissions and Sinks 1990 - 2017*. Report Number: EPA-430-R-19-001. Accessed online: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks
[22] Article "New EPA Report reveals Significantly Lower Methane Leakage from Natural Gas" accessed online: http://static.berkeleyearth.org/memos/epa-report-reveals-lower-methane-leakage-from-natural-gas.pdf, 2011

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				culminating to a few percent can offset the "benefit that accrues from the higher energy yield per unit CO_2 emitted when gas is used in the place of coal" (Scholes et al, 2016, Pages 26 and 27), others disagree. Research undertaken by Cohen and Winkler (2014, Page 1) states that "When considering fuel combustion and electricity generation only, the GHG emissions associated with the production of electricity using gas (be it natural or shale gas) are definitely lower than those associated with electricity produced from coal". This research further analysed a number of other studies to determine the likely life-cycle GHG emissions resulting from electricity production through shale gas and compared them with emissions from coal-fired power generation in South Africa. The study concluded that "shale gas has lower GHG emissions than coal-fired power" (Cohen and Winkler, 2014; Page 4). Further research undertaken by Yang et al (2015) on GHG emissions and water consumption per kWh of coal- and shale gas-fired electricity in China suggest that a shift from coal to shale gas and upgrading coal-fired power generation technologies could pave the way to less GHG and water intensive power in China, however there are several limiting factors that could hinder this shift. It should be noted that the design of gas transmission pipelines has evolved in a positive way since 1990. Gas pipelines are required to abide by national and international standards that will include abatement technology during the design, specifically in terms of maintenance and leaks. Specific to this SEA, mitigation measures to reduce the probability of leaks and to ensure quick turnaround times during potential leaks will be implemented during the design phase and have been recommended in the Generic Environmental Management Programme (EMPr) that has been compiled as part of this Gas Pipeline SEA. In terms of life-cycle emissions from the gas pipelines, the information required to undertake a full life cycle assessment (LCA) with respect to GHG emissions can only be finalised at a project specific level, once a specific transmission gas pipeline route has been determined and a detailed design analysis undertaken (i.e. once there is a viable business case, meaning a guaranteed supply of gas and sufficient demand). In addition, a full LCA requires several details such as the source of gas, quantity of gas transported, usage of gas, location of take offs, location of compressor stations (if any), etc. This level of information is unknown

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				at this stage. There are still currently uncertainties regarding the likelihood and the timeframe for the construction of such pipelines and no real guarantee whether they will be constructed. Part 2 of the Gas Pipeline SEA Report also provides feedback on other operating pipelines in South Africa and associated incidents and leaks. In order to reduce the likelihood of leaks and ruptures, the Pipeline Operator will ensure that the pipeline is designed to relevant international and national standards, taking into consideration the lessons learnt from previous regional operations. The pipeline will be an all-welded system, so there is no possibility of leaking from flanges or failed gaskets. Leaks are normally detected by abnormal pressure drops and a loss of transported volumes. Risk Based Inspection (RBI) via scheduled intelligent pigging of the pipeline sets an initial baseline and thereafter monitors the condition of the pipeline. Regular pipeline monitoring will be implemented, along with stringent emergency response procedures. These and other relevant mitigation measures captured in the SEA Report with regards to leaks, ruptures and emissions have been included in the EMPr that is being compiled as part of this SEA.
Janet Solomon	Private/ Vanishing Present Productions	10 June 2019, Email Part 1 – Gas Pipeline Page 12 Line 132	Regards minimising constraints on the environment, please could you supply an estimate on the gas transmission leakage rates calculated as a percentage of gas flowing through the transmission network for this project? Please provide a basis for this estimate, including assumptions about transmissions, storage, distribution and production, repairs and conditioning. How will this loss rate be assessed during operation? Please provide an expected a carbon emissions measurement per phase. Also please highlight how emissions from flaring will be mitigated.	**Response from iGas**: This SEA does not equate to or guarantee construction of any gas pipeline phase identified and assessed in the SEA. Furthermore, not all phases will be developed. As noted above, a pipeline project will only be developed if there is a viable business case and demand. Comprehensive estimations will only be feasible on a project specific basis as they depend on the design requirements of that specific project i.e. it is not possible at this stage of the SEA to identify where the gas is most likely to come from (thus a starting point for the pipeline) or where it is mostly needed (thus an end point of the pipeline). Therefore, it is not possible to know the most likely route and length of the pipeline at this stage, and thus estimate the transmission leakage rates as a percentage of gas flowing through the pipeline. The expected carbon emissions measurement per phase cannot also be identified at this stage. Nevertheless, iGas made an estimate of the amount of natural gas that could potentially be lost along a 30 km section in the unlikely event of a catastrophic failure of the pipeline (i.e. full bore rupture); at atmospheric conditions, a maximum of 7.3 tonnes of Natural Gas may be lost from the line; and for a critically pressurised line, a maximum of 860 tonnes

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				of Natural Gas may be lost, of which methane accounts for about 94% of the total constituents. By way of comparison, the average car releases 4 – 5 tons of CO_2 per year. There are 12 million vehicles registered with the Department of Transport including heavy vehicles. Therefore, as a minimum, the release of CO_2 from motor vehicles in South Africa, is 48 – 60 million tons per year. It is important to note that this estimated calculation is based on a number of assumptions. Refer to Part 2 (Section 2.3.3.1) of the Gas Pipeline SEA Report for additional information on this calculation. Please also refer to the response to above comment. If iGas does develop a gas pipeline within any of the corridor phases in the future (subject to a viable business case and demand), iGas will be responsible for providing an estimation generic estimation based on the specific design requirements for that phase. Part 2, Section 2.3.3.1, of the Gas Pipeline SEA Report describes the use of an inert gas such as nitrogen (N_2) during commissioning to limit the release of natural gas to 5 – 6 kg at each pigging station during the commissioning of a 26" pipeline. Further, in Section 2.3.3.1 of Part 2 of the Gas Pipeline SEA Report, it is indicated that an equivalent of 3000 kg of CO_2 will be released per 1000 km of pipeline once every 5 years during pigging operations. Here again, Nitrogen is used as a purge gas to limit the flaring of natural gas.
Janet Solomon	Private/ Vanishing Present Productions	10 June 2019, Email Part 1 – Gas Pipeline Page 14 Lines 100 - 103	This SEA has not provided a sufficient evidentiary base to answer key questions around contributions to global warming and climate change by the proposed extraction, processing and distribution of fossil fuels and their consumption to declare that it has forefronted the environment. The SEA perpetuates the assumption that fossil fuel extraction and use can continue without limit.	**Response from iGas**: The SEA is working on the basis of the Integrated Resources Plan, which stipulates that gas is part of the energy mix of South Africa, and thus needed to meet the energy demand. South Africa will require a mix of and balance between all energy types to meet its energy needs. It is understood and acknowledged that the Integrated Resources Plan (IRP) is contested by various stakeholders, however the concerns regarding the energy mix, especially the contribution made by natural gas and its environmental impacts in general, cannot be addressed as part of this Gas Pipeline SEA. The SEA is nevertheless subject to the projections made in the Integrated Resources Plan. It is imperative to note that this SEA does not advocate for certain types of energy technologies but it is well aligned with the objectives of the Draft IRP (DoE, 2018), Final promulgated IRP (DoE), National Development Plans (NDP) and Operations Phakisa. The main focus for natural gas
April Gehle	Private	22 June 2019, Email Part 3 – Gas Pipeline Page 2 Lines 13 - 20	Current research is now concluding that natural gas does not have a positive significant role to play in future energy production. ▪ Natural Gas will not positively contribute to a low carbon economy. o *https://www.vox.com/energy-and-environment/2019/5/30/18643819/climate-change-natural-gas-middle-ground*	

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			○ *https://www.ucsusa.org/clean-energy/coal-and-other-fossil-fuels/environmental-impacts-of-natural-gas*	infrastructural developments in South Africa is for power generation and industrial use that seeks to displace heavy fuel oil, coal and LPG. The articles provided reiterate zero-emissions as the immediate goal to be achieved for current and future energy production. At present we still have coal power plants running in South Africa and the demand for sustainable energy keeps increasing. The switch from coal to gas for electricity production does reduce emissions significantly but not to zero. Abengoa Solar Concentrated Solar Power (CSP) Plant in the Northern Cape have a nameplate of 50 MW but covers 140 hectares of land, Medupi power station in Limpopo has a nameplate of about 4 764 MW. If we were to switch completely to CSP or photovoltai1cs, over 13 000 hectares of land will be used to achieve the same capacity. The issue with these types of energy is land-power ratio, other known factors include reliability and availability, which are currently being addressed globally through research. The South African government advocates towards an energy mix of technological feasibility, sustainability and carbon use reduction. One needs to undertake research on the environmental benefits of power generated from firing natural gas turbines. To move forward as a country, we need to look at energy transition from a common perspective and implement effective strategies to ensure mutual beneficiation from both the environment and economic perspective. In terms of emissions, natural gas use results in fewer emissions than that of cars (Refer to Part 2 of the Gas Pipeline SEA Report for additional detail). The average car releases 4 – 5 tons of CO_2 per year. There are 12 million vehicles registered with the Department of Transport including heavy vehicles. Therefore, as a minimum, the release of CO_2 from motor vehicles in South Africa, is 48 – 60 million tons per year. The energy mix in South Africa identifies areas of weakness in cleaner energy technologies and balance the equation to ensure sustainability. Weaknesses have already been identified in some renewable energy technologies such as CSP, where common issues relate to land-power ratio, water usage, and other known factors include reliability and availability. Putting these into context, if South Africans were to convert the cars they use to electric, as a measure to combat climate change (since they are a major contributor), how much land and how many of these renewable technologies will be needed to service the said market including the current national demand?
Desmond D'Sa	South Durban Environmental Community Alliance	24 June 2019, Email Part 1 – Gas Pipeline	**Conclusion** Gas pipelines are not the energy infrastructure that South Africa needs if it wants to build a clean energy future. Gas pipelines will simply add to climate change and commit the country to several more decades of destructive dependence on the oil and gas industry. The concept that natural gas offers a bridge to a low-carbon future is false. If South Africa wants to incorporate a Just Transition, then we need to move away completely from fossil fuels, because according to The International Panel on Climate Change, "*there is only a dozen years for global warming to be kept to a maximum of 1.5C, beyond which even half a degree will significantly worsen the risks of drought, floods, extreme heat and poverty for hundreds of millions of people* (2018). The recommendation is that there must be a transition to renewable energy which South Africa has a vast potential for.	

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				This concern may however be raised by commenting on the Draft 2018 IRP which was publicised in November 2018 for public comment pertaining to the future energy mix of South Africa. The aim of this SEA is to assess the potential impacts of transmitting natural gas in pipelines within pre-assessed corridors from the source to the anchor point. The impacts associated with extracting, processing and usage of the gas (either at the anchor points or at a distribution and reticulation level) cannot be assessed as part of this SEA, given that this information will only be available at a project specific level. These activities would need to be subjected to separate Environmental Authorisations, where such impacts would need to be assessed on an individual project specific scale. Section 2.3.3.1 of Part 2 of the Gas Pipeline SEA Report notes that during the operational phase, under normal pipeline operating conditions, GHG emissions are most likely to occur as a result of pigging operations; and compressor station operations. During the operational phase, under abnormal pipeline operating conditions, product releases (leaks or ruptures) may constitute a considerable safety risk for surrounding communities. Further to the above, a summary of high level climate related impacts including potential areas prone to coastal flooding and climate change have been included in Part 4.2.8 of the Gas Pipeline SEA Report, based on the Green Book online tool developed by the CSIR. However, it is important to note that a Climate Assessment and Life Cycle Assessment would be recommended once the specific large projects such as gas to power stations have been identified. Recommendations to monitor GHG emissions during pipeline operations are included in the Generic EMPr.
Janet Solomon	Private/ Vanishing Present Productions	10 June 2019, Email Part 1 – Gas Pipeline Page 21 Lines 65 - 67	Considering the peak plateau and decline dates between 2020-2025, and the time frame for this SEA bringing an enormous fossil-fuel based infrastructure online by 2034 it does question the logic, and hence the cost (both environmental and fiscal) of this development.	Response from the Gas Opportunities Analysis Specialist Author: The proposed infrastructure makes a contribution to reducing overall fossil-fuel emissions in South Africa and the desired plateauing of these emissions by 2035. Response from iGas: The phased gas pipeline network corridors identified in this SEA is not a single continuous network of pipelines to be built in South Africa. It is rather a high level forward planning process,

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				which identifies areas within the corridors that are least sensitive from an environmental and engineering perspective relating to the development of natural gas transmission pipelines. It thus it is not accurate to deduce that all the identified phases will be online by 2034. The phases identified are opportunities which exist nationally and not all of them will be constructed. The costs associated with the construction of any phase will be borne by the developer (either private or state owned company) and must make financial sense. This SEA does not imply that pipeline developers are then given greenlight for the construction of pipelines within the corridors (once gazetted) without being subjected to certain environmental regulations and other related project specific procedures.
Desmond D'Sa	South Durban Environmental Community Alliance	24 June 2019, Email Part 1 – Gas Pipeline	**Climate Change** The most obvious indication of the lack of concern about climate in this document is this comment: "The principal determinants of energy demand growth are numerous and complex and include: energy policies, rates at which economic activity and population grow, relative energy source prices (and technological developments which impact on the relative costs of exploration, production and distribution) and technology innovations which can have a downward impact on energy prices - amongst other impacts." **Neither the methane contribution to climate change nor the impact of gas reinjection on oil extraction - a source of future CO2 emissions - is mentioned, as a determinant of energy demand.** For the national scientific body to simply ignore climate catastrophe when contemplating factors affecting energy demand growth, is mind-boggling. When much later it arises in a few short paragraphs, the analysis of the impact of gas emissions - especially methane, more than twenty times worse a short-term contributor to climate change than CO2 - is simply non-existent. Such minimisation of the problem is not surprising, for the CSIR has been challenged by SDCEA before about denying aspects of climate change, when working on Transnet's 2012-15 expansion of the Durban	**Response from the Gas Opportunities Analysis Specialist Author**: The statement in the report includes reference to "energy policies" as a factor impacting on the nature of future energy demand. Energy policies in turn are influenced by climate change environmental commitments and targets. There are many sources of methane gas as well as various initiatives to reduce methane gas. In the oil and gas industry, the Mineral Methane initiative's objective is to promote significant reductions in methane and black carbon emissions from the oil and gas sector and specifically (Source: https://www.ccacoalition.org/en/initiatives/oil-gas): ▪ 45% emissions reductions in methane emissions over estimated 2015 levels by 2025; and ▪ 60-75% reductions by 2030. **Response from the CSIR**: These concerns are noted, however it is important to note that greenhouse gas (GHG) emissions and climate change were considered in the Gas Pipeline SEA Report (specifically in Part 2 of the SEA Report) that was released to stakeholders for comment between April and June 2019. As noted in various instances, this SEA only considers the impacts associated with transmission of gas onshore in pipelines from the source to the customer. It does not consider any impacts associated with sourcing, loading, offloading, usage, distribution or reticulation of the gas. To expand, the various sources of gas (i.e. shale gas, offshore indigenous gas, imported gas etc.) are not assessed in this SEA either. Therefore, responses regarding fracking and reserves in the Karoo cannot be commented on here (Note that a separate SEA was undertaken and completed in 2016 regarding

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			harbour. At the time, CSIR consultants simply refused to factor in realistic assessments of damage done by port-petrochemical complex expansion to Greenhouse Gas (GHG) emissions, as well as damage in the form of rising sea levels and extreme weather events, to Transnet's proposed new infrastructure. In spite of widespread condemnation of Transnet's Environmental Impact Assessment, especially the CSIR consultants' role, these 'scientists' are yet again refusing to face up to the massive problems in this mega-project in terms of climate change. The clients for this current CSIR work still include those parts of the state that have never considered the climate emergency as worthy of consideration in mega-project design, including the Department of Energy, Department of Public Enterprises, iGas, Eskom and Transnet. To carry out work for these clients, it is apparent that CSIR is once again playing down the climate catastrophe, in what is an obvious conflict of interest. The only mitigating factors that the CSIR turns to, are the carbon tax of US$0.42 that was enacted after persistent delays on 1 June 2019, and the December 2015 Paris Climate Agreement promise by the South African government, that "emissions will peak between 2020 and 2025, plateau for approximately a decade, and then decline." Not mentioned are, first, that Sweden's carbon tax is much closer to what a genuine effort at pricing carbon should be: US$180.00/ton. South Africa's carbon tax is laughably miniscule in comparison, especially given the role of the project's three main users - Sasol, Eskom and Transnet - in raising the country's GHG emissions to such exceptionally high levels. Second, the SA commitment was exactly the same in 2015 that it was back in 2009, and is now considered utterly inadequate and irresponsible. South Africa has an obligation to move much further and faster, particularly in view of the	Shale Gas Development (Scholes et al, 2016)). These activities are expected to be subjected to separate Environmental Authorisation processes. Overall, these factors were never ignored or downplayed or minimised by the CSIR as part of this Gas Pipeline SEA. The CSIR has undertaken this Gas Pipeline SEA with the highest level of integrity and such remarks are unreasonable. Making assumptions and deductions on the CSIR's role on this SEA based on other previous projects is unwarranted. This is not the platform to discuss the CSIR's role and findings of other projects. However, in order to clarify the situation, the "Transnet's 2012-15 expansion of the Durban harbour" project, as referred to by Mr. D'Sa, was not undertaken by the CSIR. If Mr. D'Sa is referring to the Transnet Port of Durban Berths 203 – 205 expansion project, the Environmental Impact Assessment (EIA) was undertaken by another Environmental Consultant. The CSIR did serve a specialist role in the Ecological Risk Assessment chapter of the EIA, together with another specialist company. Refer to the responses provided to the comments in Section 2.1 of this Comments and Responses Trail chapter (Appendix A.7.10 of the Gas Pipeline SEA Report) that address concerns regarding the role of the various departments involved in this SEA, as well as concerns regarding conflict of interest. This SEA is working on the basis of the Integrated Resources Plan and the findings of the Operation Phakisa 2014 Final Oil and Gas Lab, which stipulates that gas is part of the energy mix of South Africa, and thus needed to meet the energy demand, and that gas pipeline infrastructure will be required once gas finds materialise. South Africa will require a mix of and balance between all energy types to meet its energy needs. The SEA is not required to compare the various technologies of power generation in terms of the energy mix as this is dealt with at a national energy planning policy level. Furthermore, this SEA is only focusing on the transmission of gas through pipelines and does not consider the entire life-cycle of natural gas operations.

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			2016-18 Cape Town drought, the ongoing droughts in the Free State and other parts of South Africa, the Durban Rain Bomb (168 mm in 24 hours) that killed more than 70 people on 22-24 April, and the two cyclones in March-April that killed well over 1000 of our neighbours in Mozambique, Zimbabwe and Malawi. A genuine analysis of emissions is vital; the failure to include any information at all about the methane emissions (including leakage from anticipated fracking sites - which make power generation from gas far more damaging than coal-fired power in the United States) must be rectified. The climate damage and local air, water and land pollution damage implied in the March 2019 IRP's use of coal and gas are nowhere quantified in that document, and along with coal exports and other high-carbon aspects of the South African economy, will ruin even the chances of the inadequate Paris commitments' realisation. Whether 1000MW or 2000MW or even more, that IRP dangerously makes promises of increased energy generation from gas: "*the Brulpadda gas resource discovery in the Outeniqua Basin of South Africa, piped natural gas from Mozambique (Rovuma Basin), indigenous gas like coal-bed methane and ultimately shale gas, could form a central part of our strategy for regional economic integration*" - without an assessment of methane's contribution to the climate catastrophe now unfolding. In other words, the CSIR's reliance upon the IRP to justify a rationale for a dramatic increase in gas burning to generate electricity, compounds the failure to properly consider methane emissions. In addition to failing to contemplate the GHG emissions associated with the pipeline's transfer of gas to generators, the SEA document also neglects the very basic responsibility of environmental scientists to engage in natural capital accounting, regarding the gas that will be drawn from within South African national boundaries, *and then no longer be available for any*	The SEA has considered environmental and engineering constraints to identify the best possible 100 km wide corridors for potential gas pipeline development, and is scientifically supported by a number of specialist assessments, which include the identification of potential risks and management actions. A climate change and GHG emissions assessment would be recommended during the project specific stage in order to address related concerns. Such a study cannot be undertaken at this SEA level. Refer to the responses provided in this section of the Comments and Response Trail chapter for additional detail regarding the energy mix in South Africa, as well as GHG emissions from gas transmission pipelines. Further to the above, a summary of high level climate related impacts including potential areas prone to coastal flooding and climate change have been included in Part 4.2.8 of the Gas Pipeline SEA Report, based on the Green Book online tool developed by the CSIR. This summary aims to make project developers aware of areas at risk of climate change impacts. With regards to natural capital, the primary objective of the SEA is to assess environmental opportunities and constraints and to ensure that natural capital is conserved. **Response from Transnet**: It should be noted that critical work is currently underway in the form of strategies and plans in both mitigation and adaptation as part of Transnet's Climate Change position. This is undertaken outside of this SEA Process.

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			future use. That accounting task was one that the late Environment Minister Edna Molewa committed to in May 2012, within the Gaborone Declaration for Sustainable Development in Africa: http://www.gaboronedeclaration.com/about-the-gdsa-1. The Declaration was "driven by a concern for the historical pattern of natural resource exploitation that has failed to promote sustainable growth, secure environmental integrity and improve social capital in Africa." The Declaration's Action Statement 1 commits South Africa to "Integrating the value of natural capital into national accounting and corporate planning and reporting processes, policies and programmes." Yet the CSIR has completely ignored this step in the process of evaluating whether extraction, piping and burning of gas is appropriate, in even self-interested economic terms. Extraction of gas through fracking, especially in the Karoo, has been unveiled as a myth, and hence the United States government claims that South Africa's gas reserves are fourth highest on earth are not to be believed. According to de Kock et al in the *South African Journal of Science* (online at https://www.sajs.co.za/article/view/4125), "the first report of direct measurements of the actual gas contents of southern Karoo basin shales" reveals the "carbon content of shales to be dominated by over mature organic matter. The results demonstrate a much reduced potential shale gas resource presented by the Whitehill Formation."	
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Part 2 – Gas Pipeline Page 10 Lines 53 - 65	Whilst climate change was a consideration in the SEA and associated specialist studies, the potential impacts of extreme weather events on infrastructure were not specifically addressed, other than mentioning areas becoming hotter, wetter or dryer. The Western Cape has seen an increase in the number of extreme weather events / natural disasters that are exacerbated by climate change. These events include fires, floods, increased storm events (including stronger rain and	**Response from the CSIR and SANBI**: Noted. The best way to address this is to ensure that when there are pipeline routes that are going through areas that are flood prone, or fire prone, that this is incorporated into the design or routing of the pipeline during the project specific stage. Ecological specialists have reported that when natural fires happen that the soil temperature at 30 cm and below, remain stable and does not heat up as much as the surface. The top of the pipeline will be a

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			winds) and severe drought. The Western Corridor (West Coast of the Western Cape) and the Southern Coastal Corridor are already experiencing the impacts of extreme weather events. By including climate change projections into infrastructure planning, inappropriate development or the incorrect placement of infrastructure can be avoided.	minimum of 1 m from the surface. It is not foreseen that the pipeline stability will be too affected by fire, except where there are deep rooted plants. In general, deep rooted plants and vegetation are not compatible with the gas pipeline servitude and thus areas with deep rooted vegetation will be avoided, or have the servitude vegetation managed. With regard to areas prone to flooding, it needs to be recommended that this is taken into account in the route design during the project specific stage, and that areas with high flooding frequency be avoided as this poses a risk to the gas pipeline infrastructure. Further to the above, a summary of high level climate related impacts including potential areas prone to coastal flooding and climate change have been included in Part 4.2.8 of the Gas Pipeline SEA Report, based on the Green Book online tool developed by the CSIR.
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Part 2 – Gas Pipeline Pages 10 – 11 Section 2.3.3.3	There is no indication of monitoring of potential gas emissions along the pipeline. Although LNG is less polluting than coal as an energy source, it can potentially add to GHG emissions if there are undetected leaks along the transport and distribution network. Are there any recommendations concerning monitoring via sensors, which could be considered as a gas emission sensors network?	**Response from the CSIR**: This comment is noted. Recommendations to monitor GHG emissions during pipeline operations are included in the Generic EMPr. Part 2 of the Gas Pipeline SEA Report provides significant detail on potential leaks from gas pipelines, as well as associated design and mitigation measures. These are stipulated in the responses provided above. **Response from iGas**: It is imperative to understand that this SEA aims to identify potential corridors that are less sensitive to the development of natural gas transmission pipelines so as to have a streamlined process for servitude negotiations and Environmental Assessment (as described above). This SEA does not assess compressor stations and/or central processing facilities. Should these facilities be required, a separate appropriate Environmental Assessment and permitting process will be needed, which will assess the GHG emissions over the life-cycle of that specific project. Pigging results play a significant role in data analysis on the individual pipeline sections. This data can be used to pinpoint areas that require additional monitoring, maintenance or immediate action to prevent an incident. Some technologies may be adopted on those critical sections after data analysis such as specialized cameras, which detects evaporated hydrocarbons, fibre optic cables installed alongside a new

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				pipeline which detects tiny leaks using thermal and acoustic sensors and/or sophisticated flow and pressure monitoring.
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Settlement Planning, Disaster Management and related Social Impacts Chapter – Gas Pipeline	This specialist study does not refer to climate change, although climate change resilience and adaptation are key objectives of Spatial Planning and Land Use Management Act and the Disaster Management Amendment Act, which are both referred to in this specialist study. As indicated in the comments to Part 2 (Project Description of this SEA), no large scale infrastructure planning and construction should be undertaken without fully understanding the climate change considerations and/ or impacts.	Response from the CSIR and SANBI: Climate change models have not specifically been incorporated into the sensitivity analyses. However, through Critical Biodiversity Areas (CBAs), areas in the landscape that act as climate change resilient areas, from an ecological perspective have been included. These have been assessed as very high sensitivity and development in these areas should be avoided. These climate change resilient areas are the most stable, and not the areas where there will be the most change. Areas of climate change adaptation is usually related to how people are able to cope with climate change, these are not clearly mapped and assessed for the corridors. It is recommended that these climate impacts be assessed when the gas pipeline route has been identified and is being designed during the project specific stage, as most climate change models available are too broad for inclusion in the SEA Phase. Furthermore, a summary of high level climate related impacts including potential areas prone to coastal flooding and climate change have been included in Part 4.2.8 of the Gas Pipeline SEA Report, based on the Green Book online tool developed by the CSIR. Response from the Settlement Planning, Disaster Management and related Social Impacts Integrating Author: As noted in the Settlement Planning, Disaster Management and related Social Impacts Chapter of the Gas Pipeline SEA Report (Appendix C.3), integrated spatial and development planning and intergovernmental alignment with regards to infrastructure investment and management is critical in enabling sustainable and coordinated development. While it is agreed that climate change and related impacts must be considered, this Chapter relies on the outcomes of the spatial and development planning tools, which should have considered climate change and related impacts during the development of these spatial tools. By using these tools as part of the planning and implementation of the project, climate change and the required considerations would have been built into the decision making process.

2.12. Social Implications

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
Desmond D'Sa	South Durban Environmental Community Alliance	24 June 2019, Email General	**Social Enhancement Studies** This overestimation is reminiscent of the megaproject cost-benefit miscalculations within the country's main pipeline investment to date: R27 billion for the doubling of the Durban-Johannesburg MultiProducts Pipeline in the 2006-18 period, which was originally slated to cost just R6 billion. According to then-Minister of Public Enterprises Minister Malusi Gigaba, in December 2012, "Transnet Capital Projects lacked sufficient capacity and depth of experience for the client overview of a megaproject of this complexity. There was an inadequate analysis of risks… Transnet's obligations on the project such as securing authorisations – Environmental Impact Assessments, land acquisition for right of way, water and wetland permits – were not pursued with sufficient foresight and vigour." This new SEA for what will in part be another Transnet gas pipeline reflects the same carelessness. Even though it is said, that Operation Phakisa will create jobs, what about the jobs and livelihoods it could destroy. The corridors of this gas pipeline are yet to be determined however it could infringe on peoples land for farming, as well contaminate water resources; it could destroy the tourism jobs if it is put near tourist areas. Also the value of properties could decrease if put near people's homes which have been done in the past. Therefore we need a social enhancement study needs to be done assess how this development will affect the economies of small businesses, including farmers, and property value.	**Response from the CSIR**: It is important to note that this Gas Pipeline SEA is not linked in any way to the Transnet SOC Limited 24 inch National Multi-Product Pipeline (NMPP). The NMPP has replaced the old 12-inch Durban-Johannesburg Pipeline (DJP) and extends from Durban to Jameson Park in Gauteng (via inland routes). The NMPP is fully operational and transports two **diesel** grades, two unleaded **petrol** grades, and **jet fuel**. The NMPP is a bulk liquid pipeline, not a gas pipeline. Nevertheless, Transnet is one of the key partners involved in this Gas Pipeline SEA. While this is not the platform for discussing the impacts resulting from the NMPP construction and operational phases, which are not a definite given for this SEA, the lessons learnt on previous Transnet operations have definitely been considered and included, where relevant, in the Gas Pipeline SEA and decision-making outputs. In 2018 and 2019, Transnet SOC Limited embarked on a national media campaign to inform stakeholders of the servitudes of Transnet gas and petroleum pipelines. The campaign included a description and images of the servitudes and pipeline markers, as well as to inform stakeholders that their actions within servitudes must not affect the integrity of the pipeline, and activities such as digging within servitudes is prohibited and it could result in severe consequences. Contact numbers were provided to contact the Operating Division of Transnet Pipelines before stakeholders encroach or dig within a servitude area. Based on the effectiveness of this media campaign, an awareness programme has also been recommended for any gas pipeline development within the corridors, as part of the Generic Environmental Management Programme (EMPr). It is important to re-iterate that a Settlement Planning, Disaster Management and related Social Impacts Assessment has been undertaken and is included in Appendix C.3 of the Gas Pipeline SEA Report. The assessment considers key social, settlement planning and development considerations relevant to the development of the gas pipeline corridors, including impact on property values, and the disruptive impact on businesses contributing to the local economy during construction. Adequate mitigation measures have been provided for these impacts.

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
				As noted above, a Basic Assessment will still be undertaken before a gas pipeline is developed. The Basic Assessment will be undertaken in compliance with the EIA Regulations and the Decision-Making Outputs compiled as part of the Gas Pipeline SEA (i.e. Protocols and Generic EMPr). Therefore, if warranted, a Socio-Economic Assessment would be undertaken during the project specific stage to assess the specific impacts on the surrounding land-users and communities, including small businesses, farmers, and property values. **Response from iGas**: It is would be better suited for Mr. D'Sa to make financial references or comparisons with that of other natural gas infrastructure projects in South Africa instead of liquid petroleum fuels as the SEA is specifically for natural gas. However, Transnet's NMPP project created over 12 000 jobs during construction and has in place the necessary statutory and regulatory authorisations, including those required for environmental compliance, for each stage of the project. The assessed corridors proposed in this Gas Pipeline SEA will be available and accessible for any natural gas pipeline developer and it is not accurate to say that the work is done for Transnet's sole beneficiation. If Transnet decides to pursue any phase identified in this SEA based on the feasibility of the business case, they shall do so via equity and project finance (bank loans). The Mozambique-Secunda pipeline has been operational for about 15 years and no major leaks or ruptures have been reported. It is important to give credit where credit is due and not criticise the entire framework. Developments which are set to emerge from this SEA are entirely for economic beneficiation of the country and are well aligned with national energy plans from the governing bodies. In response to tourist areas, settlements and farming, there is no evidence that suggests that pipeline development imposes tremendous risks but there are risks associated with pipeline development and pipeline developers must therefore be liable to manage these risks which are articulated in comprehensive disaster management plans. For this SEA, the Generic EMPr incorporates these recommendations. The pipelines are solely for transmission and will at all possible costs not be placed near tourist areas and settlements. If it were to traverse a farm, then a comprehensive agreement will be entered with the willing landowner.

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
Framed Question issued to Community Members in KZN by the South Durban Community Environmental Alliance (SDCEA): ***Question 1:*** ***Zulu**: Lokhu kumbelwa kwepayipi leGas Kuzoyihlukumeza kanjani indawo ohlala kuyona noma umphakathi wakho?* ***English**: How will this Gas Pipeline impact affect your neighbourhood or your community?* ***Question 2:*** ***Zulu**: Ngabe ucabanga ukuthi lokhu kumbelwa kwaleli payipi legesi kuzokwenzela into ethile wena noma umphakathi wakho? Uma kukhona okuzokwenzeka kanjani?* ***English**: Do you think this gas pipeline will be beneficial to you or your community? If yes/no, how?* ***Question 3:*** ***Zulu**: Makukhona ofisa ukukudlulisa ukhulume ngakho futhi?* ***English**: Is there anything else you would like to add?* **Response from the CSIR**: By way of background, a 30-day comment period extending from 9 July 2019 to 7 August 2019 was provided to stakeholders to allow for review of the presentation and Background Information Documents that were translated to isiZulu. The South Durban Community Environmental Alliance (SDCEA) thereafter compiled a questionnaire in isiZulu and sent them to community members in KwaZulu-Natal in order to seek their feedback and enable them to participate in this SEA Process.			
Samkelo Ntombela	Kwa-Makhutha Township	14 August 2019, Email and Courier General	**Response from the Community Members:** **Question 1:** **Zulu**: *Kuzowuhlukumeza ngokuthi makungenzeka kubekhona ubungozi, baningi abazolimalelwa izimpahla zabo Kanye nezindawo zabo ngoba iGas iyibungozi obungavikeleki.* **English**: There is possibility that there is a risk, therefore, many people's assets and properties will be damaged because gas is an insurmountable risk. **Question 2:** **Zulu**: *Ukumbiwa kwepayipi ngeke kuwenzele lutho umphakathi namathuba omsebenzi angeke atholakale ngoba sonke siyazi ukuthi imisebenzi ayikho.* **English**: The pipeline will do little for the community and job opportunities will not be available because we all know that jobs are unavailable and hard to find. **Question 3:** **Zulu**: *Ukudlulisa ukuthi bavale ukumbiwa kweGas ngoba iyingozi.*	**Response from the CSIR**: It must be re-iterated that this SEA has only assessed the 100 km wide corridors for the suitability of potential gas pipeline infrastructure. There is no guarantee that gas will be found or that there will be a business case to warrant the construction of a gas pipeline within the corridors. Specific pipeline routes have therefore not been assessed. However, if such pre-requisites are fulfilled and a gas pipeline project has been identified, it will be subjected to an Environmental Authorisation Process during which the risks of the pipeline on surrounding landowners (i.e. livelihood, health and assets) based on the actual pipeline route will be assessed in detail. Furthermore, consultation will be undertaken with the affected landowners on a project specific scale. Various specialist studies have been undertaken as part of this SEA to assess sensitivities within the 100 km wide corridors, and the potential impacts associated with the development of a gas pipeline on the environment. Once a specific gas pipeline project has been identified, further site-specific assessments will be undertaken to ensure that impacts, including safety risks on a project specific level are assessed and appropriately managed. The Settlement Planning, Disaster Management and related Social

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
			English: I would just like to ask if they could stop this gas pipeline because it is very dangerous.	Impacts Assessment study (Appendix C.3 of the Gas Pipeline SEA Report) considers key social, settlement planning and development considerations relevant to the identification of the gas pipeline corridors, and outlines the various parties that would need to be involved in disaster management as part of gas transmission pipeline operations. The transmission gas pipeline will generally avoid high-density settlements and highly sensitive areas (as identified in the Settlement Planning, Disaster Management and related Social Impacts Assessment study). The Pipeline Developer will initiate and undertake an Awareness Campaign to inform the surrounding public and landowners of the gas pipeline, as well as the risks that may occur during the construction and operational phases. Pipeline markers will be installed every 1 km along the route aboveground to indicate the presence of the pipeline so that future developers and adjacent land users are aware of its location. In addition, regular maintenance activities of the pipeline, servitude, pigging stations and associated infrastructure will be undertaken in order to verify and monitor the operations and conditions of the equipment, and to avoid potential incidents. Refer to Part 2 of the Gas Pipeline SEA Report for additional information on the project description and potential leaks and accidents. As mentioned on numerous occasions during stakeholder engagement and in the SEA report, any potential job creation would be **temporary** during the construction phase. If the construction of the proposed pipeline does materialise, the extent of such jobs would then be determined per project, based on its business case. In addition, the potential employment opportunities at transhipment/distribution points cannot be specified at this stage as this level of information will only be available once a project is identified. In response to the comment regarding "discrimination towards black people", this SEA Process has been undertaken in a fair and fully transparent manner. The location of the proposed 100 km wide corridors identified as part of this SEA has been optimised based on environmental sensitivities, settlement planning considerations, engineering constraints and gas supply/demand anchor points. The methodology used as part of this SEA did not in anyway direct the corridors towards disadvantaged communities. There is no evidence to
Vuyo Mfolozi	Glebelands Community	14 August 2019, Email and Courier General	**Response from the Community Members:** **Question 1:** **Zulu**: *Lento izobeka izimpilo zabantu abahlwempu engozini enkulu. Lamapayipi akaphephile ayaqhuma kube sekufa abantu abanye basale begula.* **English**: This will put the lives of the poor in danger. These unsafe pipes will explode and lead to either death or leave some people sick. **Question 2:** **Zulu:** *Mina ngithi cha ngeke isenzele lutho kuphela abantu abazophelelwa yimisebenzi and umhlaba wethu uzolimala kakhulu.* **English**: It will be of no benefit to us. The only thing that will happen is that people will lose their jobs and our land will be badly damaged. **Question 3:** **Zulu**: *Uhulumeni wethu osiphethe uyohlule kahlule ka ukuhlangabezana nemfuno zabantu bayohluleka ukuza bazokhulumisana nabantu bafika sebesitshela into abazoyenza abafuni ukuzwa uvo lwabantu abahluphekile.* **English**: Our government is failing to meet people's needs and his people are also failing to communicate properly with us in a proper manner. They only tell us what they are about to do and do not take our opinions into consideration.	
Naledi Nene	Kwa-Makhutha Township	14 August 2019, Email and Courier General	**Response from the Community Members:** **Question 1:** **Zulu**: *Kuzoqala ngokulimala kwemvelo le esiyithanda kakhulu iphinde ibe igugu kithi. Lokubelwa kwalama payipi kuletha ubungozi obukhulu kusukela kulo moya esiwuthola olwandle. Uzoshintsha lobungozi singasho ukuthi intuthuko, kodwa eminyakeni ezayo inkulu*	

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
			inkinga esizoba kuyona futhi kuyoba nzima ukuthi ilungiseke uma sizodlala osomabhizinisi. English: It will cause destruction to the environment we love and cherish. The distribution of these pipes poses a serious risk from the air we find in the sea. We can say that it is development, but in the long run, the problem will be greater, and it will be harder to fix it if we are going to let business people do as they please. Question 2: Zulu: *Into ezokwenzeka ubungozi bodwa ngoba labantu abenza lezinto ababheki emumva. Ngisho ukuthi bazokwenza bazuze izizumbulu zezimali basishiye nobungozi ngoba abanendaba nezimpilo zethu. Akukho esizokuzuza ngaphandle kokungaphephi. Qha into ebalulekile imali.* English: The only thing that will bring us is danger because the people who do these projects and developments will not look back to check if the communities who were affected are still safe. I mean, they will make a lot of money and leave us vulnerable because they don't care about our lives. Nothing will be gained besides danger. The only thing they care about is money. Question 3: Zulu: *Ngifisa sengathi kungaba khona ukulungiswa siphinde sihloniphane. Lapho suke silandela usiko lwethu ma-Afrika. Asihlonishwe singenalutho. Akungadayiswa ngemindeni yethu. Kusikhombisa ukuthi anilungele ukuhola noma anilungele ukuba kulezi zikhundla okanye ukusidelela ngisho ngoba anikhombisanga ukukhathazeka.* English: I would like for there to be creativeness and respect between people. Doing this is a sign on African humility. Could we please be respected even though we have nothing. Failure to do this shows us that you are not fit for your positions as leaders.	support this comment. It must be re-iterated that this SEA assessed the suitability of energy corridors for the potential development of a high pressure gas transmission pipeline to service main anchor points, such as a Gas to Power Station and Industrial Development Zones. This study has not included distribution and reticulation pipelines and the transmission pipeline would therefore not directly service settlements, homes or specific people. In addition, a specific pipeline route within the proposed corridor would only be developed if there is a demand, a confirmed source of gas and a guaranteed off-taker. The route of the gas pipeline will then be selected based on the findings of the SEA Process and project specific assessments, taking into consideration a number of different features such as the environment and affected communities. Based on the comments, it appears as the communities have been misinformed about the risk of gas pipeline. The Project Developer will ensure that the gas pipeline (if warranted) will be designed, constructed and operated in line with best practice, and national and internal specifications to ensure the overall safety of surrounding landowners. Furthermore, Risk Assessments will be undertaken during the design phase as per the Occupational Health and Safety Act (Act 85 of 1993). This is not an optional condition; Project Developers will be mandated to ensure proper design and maintenance.

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
Phakamani Ntombela	Kwa-Makhutha Township	14 August 2019, Email and Courier General	**Response from the Community Members:** **Question 1:** **Zulu**: *Mina njengesakhamuzi angivumelani nokumbelwa kwepayipi ngoba lizoletha ubungozi obukhulu. Okokuqala kukhona izingane ezincane ezidlalayo noma ngabe ikuphi okwenza ngisho lokhu ukuthi uma lelipayipi selifakiwe akekho ozolandelela ukuthi kusahamba kahle yini ngalo.* **English**: I, as a citizen do not approve of pipeline excavation as it would pose a serious risk. First of all, there are young children who play all over the place and this means that once this pipe is installed, in future no one will come back to track and check whether it is going well. **Question 2:** **Zulu**: *Okuzokwenzeka nje ukuthi lizosilethela ubungozi futhi akekho umuntu emphakathini ozothola ithuba lomsebenzi ngoba uma lizofakwa nabantu balo, uma selinenkinga lizosala nomphakathi wami.* **English**: What is going to happen is that it will bring us danger and no one in the community will get a chance to work. The project will bring along its own skilled and unskilled labour but when problems arise in the long run, they will be the community's problems to face and they will not be involved anymore. **Question 3:** **Zulu**: *Ngidinwe iyona yonke lento.* **English**: All this makes me angry.	
Phelele Ngubane	Kwa-Makhutha Township	14 August 2019, Email and Courier General	**Response from the Community Members:** **Question 1:** **Zulu**: *Bekuzoba into enhle ukube bekuzocatshangelwa abantu abansundu abahluphekile. Singabaletheli abantu abangasebenzi ngoba sizobaqhatha ngayo yonke lento sibathembisa umsebenzi ongelutho.* **English**: It would be nice if poor black people would be	

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
			considered. We should not involve unemployed people in this and promise them worthless jobs. **Question 2:** **Zulu**: *Angiboni ukuthi kukhona engizokuthola kulokhu mina kodwa kuzongilimaza kakhulu.* **English**: I do not think there is anything for me to gain from this besides being endangered. **Question 3:** **Zulu**: *Akukho, kuyisidina. Siwumphakathi asisizukulala sidle amapayipi thina.* **English**: There isn't much but as a community, gas pipelines will not fill our tummies every day.	
Nomfundo Nxumalo	Kwa-Makhutha Township	14 August 2019, Email and Courier General	**Response from the Community Members:** **Question 1:** **Zulu**: *Ngibona kuwukuhlukumeza thina abantu abamnyama ngoba lamapayipi akhomba emasabhabhu la kuhlala khona abelungu, uma sekulikha izinto kuhlukumezeka thina indlu emnyama.* **English**: I see this process as being very discriminatory to us as black people because these pipes affect us, but they are beneficial to white people in the suburbs. When the pipes start leaking, the black people will suffer. **Question 2:** **Zulu**: *Noma engavela amathuba kuba okwesikhashana. Lento yepayipi legesi asiyifuni ngoba inobungozi futhi angeke basifundise ngalezinto ukuthi zinobungozi obungakanani.* **English**: Even if job opportunities were to arise, it would only be for a short while. We do not want the gas pipeline because it is dangerous, and they do not teach us of its dangers. **Question 3:** **Zulu**: *Akukuningi, ngithanda ukucela nje ukuyekwa ezindaweni esihlala kuzo, ngyabonga asifuni izinto*	

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
			eziningi ezizosidunga umqondo. **English**: Just one request, can we please be left alone so that our minds could also be at ease.	
Mzuvefi Ngema	Kwa-Makhutha Township	14 August 2019, Email and Courier General	**Response from the Community Members:** **Question 1:** **Zulu**: *Konje sifike nini kulokhu esesikukhuluma. Sesinakho konke yini esikudingayo empilweni yethu ngoba ngokubona kwami yonke lento izodala izinkinga ezimpilweni zethu.* **English**: When did we get to what we are speaking about now? Do we have everything we need? In my opinion, all of this will cause problems in people's lives. **Question 2:** **Zulu**: *Ngingajabula uma kungathiwa kukhona engingakuthola kodwa cha angiboni ngithola okusile kulento.* **English**: I would be happy if there would be some opportunity for me, but the probabilities are against me, so I am not happy. **Question 3:** **Zulu**: *Ngicela ukudlulisa ukukhuluma okuthi ake sihlukaniswe nezinto ezizosiqhatha njengabantu abahluphekile.* **English**: Can we please stay away from things that will cause conflict between poor people?	
Mzo Mhlobo	Kwa-Makhutha Township	14 August 2019, Email and Courier General	**Response from the Community Members:** **Question 1:** **Zulu**: *Kuzongihlukumeza mina Kanye nomphakathi engihlala kuwo ngoba ipayipi lihamba eduze kwala engihlala khona futhi izingane zizolimala.* **English**: It will disadvantage both me and my community members because the gas pipeline crosses right next to where I live, and children's lives will also be in danger. **Question 2:**	

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
			Zulu: *Akukho okuzokwenzeka kithi nasemphakathini kodwa ukubeka izimpilo zethu engcupheni ngale gesi ezoba inkinga kithi.* **English**: There will be no gain for us and our community instead our lives will be put in danger. **Question 3:** **Zulu**: *Ake sishintshe indlela okubukwa ngayo abantu abamnyama nezindawo abahlala kuzo. Akusizona ezizokwenza inzuzo.* **English**: Can we please change the way black people and the areas in which they live in are treated? These areas are not the ones that will bring in development.	
Mampondo Nkulu	Kwa-Makhutha Township	14 August 2019, Email and Courier General	**Response from the Community Members:** **Question 1:** **Zulu**: *Kuzoyilimaza kakhulu indawo engihlala kuyo ngoba kuyimanje kuke kwenzeka bangasebenza abantu bendawo yize kwakumbelwa inkinga yento ezosinika inkinga kusasa.* **English**: It will affect the area I live in negatively. It has happened that people from the local area were not given work opportunity even though the community is the one that will suffer the consequences that will result from this pipeline in the future. **Question 2:** **Zulu**: *Anginakho nokuncane engizokuthola kulolu hlelo ngoba sikhala nhgezinto eziningi emphakathini esihlala kuwo.* **English**: We will not gain a single thing from this development. We always bring forth our needs, but nothing is ever done. **Question 3:** **Zulu**: *Anginawo amazwi amaningi enginganda ngawo kodwa kuningi okuhle esikudingayo okudlula amapayipi azombelwa*. **English**: I do not have much to add on but just to say	

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
			that there are more important needs in our community than a gas pipeline.	

2.13. Defence

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
Lt Col Etienne van Blerk	South African Air Force (SAAF)	3 May 2019, Email General	I have received your specialist assessment chapters and will prepare response for 10 June. In the process of preparing such, I will be in touch noting at first glance that some of the hazard areas furnished earlier may have been omitted, e.g. Overberg Test Range (Denel).	Response from the CSIR and SANBI: All of the sites that were indicated by the Department of Defence were included in the Additional Impacts Chapter (now changed to Part 4.2.5 of the Gas Pipeline SEA Report), where shapefiles were provided. Shapefiles were not provided for certain sites, and as such, they were not included in the Additional Impacts Chapter that was released to stakeholders for comment. However, additional communication with the Department of Defence was undertaken in July 2019 and shapefiles have been used where they were provided for these outstanding areas. Where shapefiles were not provided, the co-ordinates provided by the Department of Defence were used and the areas were linked to the ERF.

2.14. Heritage Impacts

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
Nokukhanya Khumalo	South African Heritage Resources Agency (SAHRA)	7 May 2019, Email General	Thank you for informing SAHRA APM Unit of the availability of the specialist studies for commenting on the Gas Network SEA. SAHRA would like that a case for the SEA is created on SAHRIS and we will provide our comments in the requested format.	Response from the CSIR: Cases were created on the South African Heritage Resource Information System (SAHRIS) on 16 May 2019 for the Gas pipeline SEA (case number: 13814)

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
				An email was sent to SAHRA on 16 May 2019 to inform them that the cases were created and the project documents uploaded for comment. This email was acknowledged by SAHRA.
Nokukhanya Khumalo	SAHRA	24 June 2019, Email General	The gas pipeline network will consist of the construction of over 7 000 km's of underground pipelines constructed over 6 phases. The pipeline trenches will be 1-2 m wide in order to allow for a 660 mm in diameter pipe to be lowered into the trench. The construction right of way will be 30m wide including the topsoil dump and the final servitude that will be maintained will be 10 m wide. In 30 km intervals there will be block valves constructed, consisting of a concrete slab on the surface and a concrete valve chamber below ground as well. In 130 km a robotic PIGG station will be constructed above ground to allow for the servicing of the pipelines. Additional construction includes construction camps, access roads will be 8 – 10m wide, and laydown areas within the construction right of way. The identified heritage site buffer zones provided to CSIR in 2018 have been used in the SEA as part of the Environmental Constraints mapping. In addition, the SEA used data from the heritage scoping report undertaken as part of the 2016 EGI SEA to inform on the heritage section in chapter 3.7. Detailed comments on SEA report are provided in the prescribed commenting excel spreadsheet. **Comments** The SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit notes that this SEA states that a HIA will be required during the project implementation phase. However, as a tool to streamline the EA application process and to assist developers in identifying routes with the least sensitivity and risks of impact should include a preliminary large scoping study, particularly as the heritage sensitivity constraints for Phase 5 of the gas pipeline network have not been assessed or mapped in 2016 EGI SEA. It is also noted that portions of the gas pipeline phases 2/3, 3/2 and	**Response from the CSIR**: It should be re-iterated that not all phases of the gas pipeline corridors will be constructed. A pipeline will only be constructed within a specific phase based on a viable business case, and if the is a source of gas and a secured and guaranteed off-taker. Similarly, the entire 100 km wide corridor will not be developed with gas pipeline infrastructure. The note made by SAHRA i.e. "over 7 000 km's of underground pipelines constructed over 6 phases" is considered to be a worst case. Furthermore, the construction right-of-way will extend approximately 30 – **50 m** wide, and the intervals for pigging stations might be greater than 130 km depending on the technology used. Additional details regarding the specifications of the gas pipeline are included in Part 2 of the Gas Pipeline SEA Report. Part 4.2.7 of the Gas Pipeline SEA Report notes that a specific Heritage Impact Assessment (HIA) will be required prior to development of the gas pipeline on a project specific basis. Based on this reasoning, a dedicated high level Heritage Assessment was not undertaken at this SEA level (i.e. regardless of the sensitivity of the site, the developer will be required to carry out, at least, a Phase 1 HIA). Instead, a review of existing literature captured for the previous SEAs, as well as a general sensitivity analysis based on available spatial data has been undertaken for the Gas Pipeline SEA. The sensitivity analysis is based on the following information: ▪ Mapped heritage features dated December 2018 curated by the South African Heritage Resources Agency (SAHRA); ▪ World Heritage Sites and related buffers dated Q4, 2017, sourced from the South African Protected Areas Database (SAPAD); and

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
			phase 6 did not form part of the 2016 EGI SEA as well. Where there are no overlaps in the 2016 EGI SEA Heritage Scoping report and the current proposed gas pipeline network, specific heritage constraints maps must be developed and included in the section 3.7 of the SEA report. Should you have any further queries, please contact the designated official using the case number quoted above in the case header.	▪ Geological Features and Substrates of Palaeontological Importance, Geology layer dated 2014, sourced from the Council for Geosciences. The datasets for the Palaeosensitivity Map available on SAHRIS could not be provided by SAHRA to the SEA Project Team, hence it was excluded from the generic Sensitivity Analysis. It is believed that the information included in Part 4.2.7 of the Gas Pipeline SEA Report is adequate in terms of the identification of sensitivities, impacts and mitigation measures, which have been captured in the Generic Environmental Management Programme (EMPr) compiled as part of this SEA. Site-specific impacts will also be captured in the project specific HIA during the Basic Assessment stage. In addition, a protocol will also be compiled for the assessment and reporting of environmental impacts on archaeological resources and palaeontological resources. In addition, once the corridors are gazetted, project developers will use the National Web-based Environmental Screening Tool and SAHRIS as the first point of reference to identify potential sensitivities on site when identifying the best route. At this point, it is likely that updated information regarding heritage features will be provided on these platforms, which will enable better planning. The outcomes of the SEA and recommendations contained within will also be considered by the project developers. It must also be noted that the Gas Pipeline SEA, and its approach towards Heritage Impacts, was also discussed on 27 May 2019 in a meeting with SAHRA, CSIR and National Department of Environmental Affairs.
Nokukhanya Khumalo	SAHRA	24 June 2019, Email Part 1 – Gas Pipeline	Please explain why no heritage specialist study was undertaken as part of the Gas SEA.	Response from the CSIR: Part 4.2.7 of the Gas Pipeline SEA Report notes that a specific HIA will be required prior to development of the gas pipeline on a project specific basis. Based on this reasoning, a dedicated high level Heritage Assessment was not undertaken at this SEA level. Instead, a

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		Page 14 Line 73		review of existing literature captured for the previous SEAs, as well as a general sensitivity analysis has been undertaken for the Gas Pipeline SEA.
Nokukhanya Khumalo	SAHRA	24 June 2019, Email Part 2 – Gas Pipeline Page 17	Palaeontological Heritage: SAHRA has six sensitivity levels for palaeontology, the differences between the two sensitivity criterions must be explained in a footnote.	**Response from the CSIR**: The spatial datasets for the Palaeosensitivity Map available on SAHRIS could not be provided by SAHRA to the SEA Project Team at the time of the assessment, hence it was excluded from the generic Sensitivity Analysis captured in Part 4.2.7 of the Gas Pipeline SEA Report and the Environmental Wall to Wall Analysis included in Part 3 of the Gas Pipeline SEA Report. As a result, the following data was used to capture Palaeontological features: ▪ Geological Features and Substrates of Palaeontological Importance, Geology layer dated 2014, sourced from the Council for Geosciences. The medium and high sensitivity areas represent areas with rock units of high and medium palaeontological sensitivity and are known to potentially have palaeontological features (based on previous heritage studies undertaken for a range of projects). Refer to Table 4 of Part 4.2.7 for a list of those areas. The correct reference is the Council for Geosciences, 2014 and this has been merged and corrected in the SEA Report. The above has been clarified in Parts 3, 5 and Part 4.2.7 of the Gas Pipeline SEA Report. Following discussions with SAHRA (email from Natasha Higgitt dated 23 January 2019), it was agreed that the following sensitivities would be used for the screening tool: ▪ SAHRA Red: Very High sensitivity. A Phase 1 PIA is required at design phase and a focused field assessment of these areas on the preferred route. ▪ SAHRA orange/yellow: High sensitivity. Desktop study required during design phase. Walk through the orange areas of the selected route and report before
Natasha Higgitt	SAHRA	24 June 2019, Email Part 2 – Gas Pipeline Pages 16 and 17 Table 1	Please explain why two different datasets were used for the mapping of Palaeontological resources i.e. Palaeontological substrate, CSIR 2013 and the Geology Layer 2014.	
Nokukhanya Khumalo	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline Page 19 Table 10	It is not clear whether the palaeontological substrate sensitivity areas mention the various formations recognised in the Palaeo-technical reports found on SAHRIS. This needs to be clear. Furthermore, if the list provided for the palaeontological substrate is listing formations then please also align it to the sensitivity protocols that the SAHRIS Palaeosensitivity map provides for each formation i.e. Very High; High; Moderate; Low and Insignificant.	
Nokukhanya Khumalo	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline Page 22 Table 11	High sensitivity: Areas of High sensitivity require a PIA inclusive of a field assessment. Permit requirements must also include section 36 and 34 of the NHRA depending on the heritage resources that require mitigation.	

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				excavation activities (by respective specialist). ▪ SAHRA green/white: Medium sensitivity. Desktop study required during design phase. ▪ SAHRA blue: Low sensitivity. A Fossil Finds Procedure needs to be included in the EMPr. ▪ SAHRA grey: Nothing required. If an alternative route is chosen, the areas of red and orange must be walked down prior to construction. Further recommendations such as monitoring during construction phase etc. will be based on the recommendations of the specialist. In general, the SAHRA PIA Minimum Standards must be adhered to. The above requirements will be included in the Heritage protocol.
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 2 – Gas Pipeline	Have palaeontological and archaeological constraints been factored into the identification of potential pipeline routes, even if only at the level of potential 'hotspots' such as in the broad vicinity of Laingsburg, Klaarstroom, Beaufort West and Fraserburg? In the latter regard, it is strongly recommended that the Council for Geoscience be approached (for information on the location and significance of fossil deposits within the respective pipeline corridors). The following specialists can be approached can be approached w.r.t. – ▪ Palaeontology: Dr Johan Almond (021) 462 3622 e-mail: <naturaviva@universe.co.za>; and ▪ Geology/engineering geology: Dr Cameron Penn-Clarke e-mail: <cpennclarke@gmail.com> and Mr Frederik Stellenbosch e-mail: <fstapelberg@geoscience.org.za> 021 943 6700	**Response from the CSIR**: Palaeontological and archaeological features have been factored into the sensitivity analysis and wall to wall mapping. A review of existing literature captured for the previous SEAs, as well as a general heritage sensitivity analysis and description of the potential heritage impacts and mitigation measures has been undertaken for the Gas Pipeline SEA. This is captured in Part 4.2.7 of the Gas Pipeline SEA Report. The sensitivity analysis is based on the following information, including information: ▪ Mapped heritage features dated December 2018 curated by the SAHRA; ▪ World Heritage Sites and related buffers dated Q4, 2017, sourced from the SAPAD; and ▪ Geological Features and Substrates of Palaeontological Importance, Geology layer dated 2014, sourced from the Council for Geosciences. In addition, SAHRA is a member of the Expert Reference Group (ERG) for the Gas Pipeline SEA, and is well informed of the SEA and its progression. Meetings have been held with SAHRA to discuss the SEAs and decision-making tools.

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
Nokukhanya Khumalo	SAHRA	24 June 2019, Email Part 3.6 Settlement Planning, Disaster Management and related Social Impacts Chapter – Gas Pipeline Page 37 Line 24	Consideration must also be made about maintenance of traditional economic conditions and settlement structures when resettling people located in traditional villages.	**Response from the Settlement Planning, Disaster Management and related Social Impacts Integrating Author**: Ideally, no resettlement should be required. However, where involuntary resettlement cannot be avoided, the relocation of affected households and or compensation for economic displacement should be guided by international best practice and a Resettlement Action Plan should be developed to manage the impact of resettlement. Where required, the Resettlement Action Plan will address maintenance of traditional economic conditions and settlement structures when resettlement applies to traditional villages. This management action has been included in the Generic Environmental Management Programme that has been compiled for Gas Pipelines.
Morné Theron	City of Cape Town, Environmental Management Department, Spatial Planning & Environment Directorate	14 June 2019, Email Part 3.7 – Gas Pipeline Page 19 Line 53 Table 10	Table 10: Sensitive Heritage (palaeontology) features fails to list The Melkbossstrand/Bouberg Area in terms of the Battle of Blaauwberg and Koeberg Archaeological Zone as identified in the finer scale City of Cape Town MSDF and Blaauwberg District Plan). This area must be acknowledged in the SEA.	**Response from the CSIR**: The Melkbossstrand/Blouberg Area in terms of the Battle of Blaauwberg and Koeberg Archaeological Zone have been acknowledged in Part 4.2.7 of the Gas Pipeline SEA Report; however it cannot be specifically pinpointed on the maps spatially. The aim of the Heritage Impacts chapter (Part 4.2.7 of the Gas Pipeline SEA Report) is to highlight the sensitivities (low, medium, high and very high) from an archaeological and palaeontological perspective based on existing data to inform the location of the corridors. During the project specific stage, a HIA, with a field based survey, will be required. Therefore, site specific areas of significance will be identified within the HIA.
Natasha Higgitt	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline Page 17 Table 7	Please note that World Heritage Sites are not managed by SAHRA but the Department of Environment, Forestry and Fisheries, except, when a National Heritage Site has been declared a WHS i.e. National Sites within the Cradle of Humankind WHS. Then both entities are responsible for the co-ordination of the management of these sites.	**Response from the CSIR**: This comment is noted. However, Table 4 of the Heritage Impacts chapter (Part 4.2.7 of the Gas Pipeline SEA Report) does not state that World Heritage Sites are managed by the SAHRA. Table 4 provides a list of Heritage Datasets used in the chapter, and explains that the World Heritage Sites and related buffers data was sourced from the SAPAD.
Natasha Higgitt	SAHRA	24 June 2019, Email	Once again, WHS are not under the mandate of the NHRA, and are not always declared because of their heritage significance, but rather the natural features of the area or a combination of	

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
		Part 3.7 – Gas Pipeline Page 19 Table 10	natural features and cultural.	
Natasha Higgitt	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline Page 17 Table 7	The SAHRA Palaeo Technical Reports are available on the SAHRIS website which should have informed the sensitivity analysis of the geological formations with regards to palaeo-sensitivity.	**Response from the CSIR**: As indicated above, the datasets for the Palaeosensitivity Map available on South African Heritage Resource Information System (SAHRIS) could not be provided by the South African Heritage Resources Agency (SAHRA) to the SEA Project Team at the time of the sensitivity analysis, hence it was excluded from the generic Sensitivity Analysis captured in Part 4.2.7 of the Gas Pipeline SEA Report and the Environmental Wall to Wall Analysis included in Part 3 of the Gas Pipeline SEA Report. It must be noted that SAHRA/Department of Environment, Forestry and Fisheries are in the process of acquiring the Palaeontological datasets from the Council for GeoScience.
Nokukhanya Khumalo	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline Page 17 Table 9	There is a new KZN Heritage Act it's the "KwaZulu-Natal Amafa and Research Institute Act, Act No. 05 of 2018	**Response from the CSIR**: This comment is noted with thanks. Table 3 of the Heritage Impacts chapter included in Part 4.2.7 of the Gas Pipeline SEA Report has been amended accordingly.
Nokukhanya Khumalo	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline Page 18 Line 15	There may be a gap in heritage data obtained from SAHRIS for the KZN province as recent site data and HIA are processed and held in Amafa databases.	**Response from the CSIR**: This comment is noted with thanks. Since a HIA, with a field based survey, will be required during the project specific state for gas pipeline developments exceeding a length of 300 m, the Heritage Specialists appointed at the time will consult with the most up to date datasets, including those held by Amafa AKwaZulu-Natali (as applicable).
Natasha Higgitt	SAHR)	24 June 2019, Email Part 3.7 – Gas Pipeline Page 18 Lines 36 - 40	While Heritage Western Cape (HWC), Eastern Cape Provincial Heritage Resources Authority (ECPHRA) and AMAFA KZN have been assessed as competent to perform functions in terms of section 8, 26, 27-30, 34-37, the remaining six provinces are not fully competent and therefore the responsibility lies with SAHRA. The Northern Cape, North West Province, Gauteng Province, Limpopo Province, Mpumalanga Province and the Free State Province Heritage Resources Authorities are only competent to provide permits for heritage resources as per section 34, or under	**Response from the CSIR**: This comment is noted with thanks. Section 4.2.7.2 of the Heritage Impacts chapter included in Part 4.2.7 of the Gas Pipeline SEA Report has been updated accordingly.

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			section 27 (only for sites defined as structures as per section 34). For sites managed under section 27, if the site is defined as an archaeological or palaeontological site, or a meteorite (section 35) or as a burial ground and grave (section 36), these sites are managed and permitted by SAHRA.	
Natasha Higgitt	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline Page 18 Line 63	There is also the 2012 Minimum Standards: Palaeontological Components of Heritage Impact Assessments	**Response from the CSIR**: This comment is noted with thanks. Section 4.2.7.2 of the Heritage Impacts chapter included in Part 4.2.7 of the Gas Pipeline SEA Report has been updated accordingly.
Natasha Higgitt	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline Page 18 Line 71	It is important to note that SAHRA is updating the current 2007 Minimum Standards and the requirements of the HIA may change.	**Response from the CSIR**: This comment is noted with thanks. An explanatory note regarding this has been included in Section 4.2.7.2 of the Heritage Impacts chapter (Part 4.2.7 of the Gas Pipeline SEA Report).
Natasha Higgitt	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline Page 18 Lines 77 - 78	It must be noted that the impacts of the Electrical Grid and the Gas Network are very different and this must be highlighted in the report. Also, it must be noted that the areas assessed for the EGI SEA differ from the areas assessed as part of the Gas SEA.	**Response from the CSIR**: It is acknowledged that the activities relating to gas pipeline and EGI construction may differ, however both gas pipelines and power lines are linear infrastructure. Both infrastructural components require surface clearing, as well as trenching and infilling for the pipeline installation and pylon bases. These specific activities may impact on heritage features in a similar way. Gas pipelines and power lines however may impact the greater landscape in a different way. Additional clarification regarding this has been included in the Heritage Impacts chapter (Part 4.2.7 of the Gas Pipeline SEA Report). Refer to the responses provided above in this section regarding the areas assessed in the 2016 EGI SEA Heritage Assessment and the current Gas Pipeline SEA.
Natasha Higgitt	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline	It must be noted that an HIA previously conducted within an area, may not have identified all heritage resources present. Over time, erosion may uncover subsurface heritage resources that were not present during the previous HIA, additionally, more burials may have occurred in an area etc. There is also an additional bias on	**Response from the CSIR**: This comment is noted with thanks. An explanatory note regarding this has been included in Section 4.2.7.2 of the Heritage Impacts chapter (Part 4.2.7 of the Gas Pipeline SEA Report). It should also be noted that all specialists involved in the EGI Expansion SEA

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		Page 18 Line 116	the part of the specialist that conducted the previous HIA. Some specialists are specialised in very specific fields and do not recognise the significance of the various types of heritage resources (Please see Van Der Venter-Radford, 2017. Response to Discussion: Heritage vs Development. *SA Archaeological Bulletin* 72(205):91-95 for a discussion regarding this topic.)	were required to complete a declaration of independence.
Nokukhanya Khumalo	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline Page 21 Line 2 Map 6	The data source used for the map must be referenced. Also not all WHS sites are included in this map (The Barberton Mkonkjwa Mountains). The heritage sensitivity map has not been updated since the Phase 1 of this SEA.	**Response from the CSIR and SANBI**: The data sources used to compile Map 1 in the Heritage Impacts chapter included in Part 4.2.7 of the Gas Pipeline SEA Report has been included. The Barberton Mkonkjwa Mountains were not included in the datasets used to compile the Draft SEA Report. It is also not included in the Department of Environmental Affairs (DEA) Protected Areas Layer. The spatial footprint boundary has been obtained by SANBI and added to the wall to wall sensitivity maps. The datasets used in this Heritage Impacts chapter included in Part 4.2.7 of the Gas Pipeline SEA Report are updated in comparison to those used in the 2016 EGI SEA Heritage Assessment, therefore the sensitivity map compiled is different from the 2016 study.
Nokukhanya Khumalo	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline Page 22 Lines 2 - 3	This sentence: "It should be noted that a HIA is required when it is anticipated that there will be impacts on significant heritage resources for a particular development proposal." must be amended to state that all EGI applications for 132kV power lines and power lines larger than 132kV will require a HIA and depending on the findings of the assessment, further monitoring of the ground clearance and pylon excavations (by a specialist) will be required. Smaller power lines will be assessed on a case by case bases.	**Response from the CSIR**: This comment is noted; however this chapter applies to gas pipeline development and not EGI. Nevertheless, this will be updated accordingly in the EGI chapter (Part 4.2.8 of the EGI Expansion SEA Report).
Nokukhanya Khumalo	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline Page 22 Lines 3 - 4	This sentence: "This differs from a heritage survey which identifies, records and grades heritage resources with no particular development proposal in mind." should be left out as it is confusing within the context of the report. Or rephrase the sentence to “This differs from a heritage survey which is conducted by the authority or for academic purposes to identify, record and assign significance to identified heritage resources.". Grading is a formal process undertaken by a Heritage Authority.	**Response from the CSIR**: This comment is noted with thanks. Section 4.2.7.5 of the Heritage Impacts chapter included in Part 4.2.7 of the Gas Pipeline SEA Report has been updated accordingly (i.e. the sentence has been removed).

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Nokukhanya Khumalo	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline Page 22 Line 4	All HIA's must have a field based survey as per the requirement of section 38(3). A report named a Heritage Desktop Assessment/Heritage Scoping Assessment may or may not contain a field survey.	**Response from the CSIR**: Section 4.2.7.5 of the Heritage Impacts chapter included in Part 4.2.7 of the Gas Pipeline SEA Report has been updated accordingly.
Natasha Higgitt	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline Page 22 Line 5	All development proposals that undertake a NEMA EA application process required that an assessment of the impacts to heritage resources is undertaken. See section 24(4)b(iii) of NEMA and section 38(8) of the NHRA.	**Response from the CSIR**: Section 4.2.7.5 of the Heritage Impacts chapter included in Part 4.2.7 of the Gas Pipeline SEA Report has been updated accordingly.
Nokukhanya Khumalo	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline Page 22	High sensitivity: Areas of High sensitivity require a PIA inclusive of a field assessment. Permit requirements must also include section 36 and 34 of the NHRA depending on the heritage resources that require mitigation.	**Response from the CSIR**: This comment is noted. These requirements will be included in the Heritage Protocol.
Natasha Higgitt	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline Page 23	Low sensitivity: An HIA will be required for these areas as not all HIAs previously conducted in areas have been accepted by the relevant Heritage Resources Authorities. If one compares that HIAs conducted to the comments provided by the relevant heritage authority, one can see that some reports were rejected due to the reports not complying with the legislation or Minimum Standards. Additionally, as stated previously, erosion can uncover previously unidentified heritage resources or additional burials could have occurred within the area. One can only apply the need to not have an assessment undertaken for the palaeosensitivity.	
Nokukhanya Khumalo	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline Page 24 Lines 10 - 15	This sentence should be amended to say: "Where significant heritage resources are known to occur or have been identified in a HIA, the ECO will have to be trained by an archaeologist or palaeontologist, depending on the nature of the finds, to identify any subsurface heritage resources during construction. In addition to a monitoring programme by the relevant specialist, that may be recommended by the PHRA. This will prevent loss of highly significant palaeontological, archaeological and palaeoanthropological resources."	

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Nokukhanya Khumalo	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline Page 24 Lines 29 - 31	All archaeological sites are visually sensitive as development changes the characteristics of the historical landscape in their surroundings. Therefore this statement must be changed.	**Response from the CSIR**: Section 4.2.7.6 of the Heritage Impacts chapter included in Part 4.2.7 of the Gas Pipeline SEA Report has been updated accordingly. It is acknowledged that all archaeological sites are visually sensitive as development changes the characteristics of the historical landscape in their surroundings; however this applies to the local site scale; and in terms of the proposed gas pipeline, such sensitivity would only occur during the temporary construction phase, as the pipeline will remain below-ground during operations.
Nokukhanya Khumalo	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline Page 24 Line 36	This sentence should be amended as follows: "Structures older than 60 years and not located in formal towns, like farmsteads and the trees surrounding the farm house, and the surrounding homesteads are an integral part of the South Africa's colonial rural landscape. These historical landscapes will also require assessment and buffered.	**Response from the CSIR**: Section 4.2.7.6 of the Heritage Impacts chapter included in Part 4.2.7 of the Gas Pipeline SEA Report has been updated accordingly.
Nokukhanya Khumalo	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline Page 24 Line 50	Preliminary consultation with the community regarding any heritage resource close and within the servitude must be carried and included in the HIA and not in the construction phase. Further consultation for the management of graves can be done after authorisation is granted in the construction phase.	**Response from the CSIR**: Section 4.2.7.6 of the Heritage Impacts chapter included in Part 4.2.7 of the Gas Pipeline SEA Report has been updated accordingly. This section of the report does already state that it is also important to consult with affected communities during the planning stage to identify the location of any informal burial grounds.
Nokukhanya Khumalo	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline Pages 17 - 24	The sensitivity and pinch point analysis for heritage resources and scenic routes were not undertaken for the gas pipe line SEA as it was done for the EGI expansion SEA. It is understood that the 2016 EGI SEA Heritage Scoping report undertaken by Dr Jason Orton, Mr J van der Walt and CTS heritage was used for this SEA. But it is not reflected as such in this SEA. The results of that study must be included here, particularly the sensitivity mapping. Where the corridors assessed in the 2016 EGI study do not overlap with the Gas pipe line SEA, a visual and heritage scoping study using similar methodologies as the 2016 EGI SEA Heritage Scoping report was supposed to have been undertaken, to inform the pinch point analysis. Where there are no overlaps in the 2016 EGI SEA Heritage Scoping report and the current proposed gas pipeline network, specific heritage constraints maps must be developed and included in the section 3.7 of the SEA report.	**Response from the CSIR**: Refer to the responses provided above in this section regarding the areas assessed in the 2016 EGI SEA Heritage Assessment and the current Gas Pipeline SEA. A detailed sensitivity analysis and scoping level assessment was not undertaken as part of this current SEA given that, regardless of the sensitivity of the site, the developer will be required to carry out, at least, a Phase 1 HIA.

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Nokukhanya Khumalo	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline Pages 17 - 24	It should be noted that an impact assessment for underwater cultural heritage will be required for any development related to the gas pipeline in harbours all along the coast of South Africa or any landing points below the high water mark.	Response from the CSIR: The Gas Pipeline SEA only includes an assessment of onshore infrastructure. Offshore activities or any underwater activities are excluded from the scope of this SEA.
Nokukhanya Khumalo	SAHRA	24 June 2019, Email Part 3.7 – Gas Pipeline Pages 17 - 24	The palaeontological heritage should be expanded upon once the data from the palaeo-sensitivity map is available for use.	Response from the CSIR: Once obtained, the palaeo-sensitivity datasets will be included in the DEA Screening Tool.

2.15. Seismicity Chapter – Gas Pipeline

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
Dr. Marco A. G. Andreoli	Independent Geological Consultant and Research Associate, School of Geosciences, Wits University	14 June 2019, Email General	Following our conversation with Prof. Durrheim, it gives me pleasure to submit to you my considered comments to the Seismicity Assessment Report (SEA- Gas Pipeline Dev.). I would appreciate it very much your feedback as my comments address rather crisp issues about the seismic risk that pipelines in sensitive areas, such as Richards Bay and its hinterland In this area there is irrefutable evidence for a potentially active fault, arguably responsible for the St Lucia event. As you my read in my CV (attached) I investigated issues of tectonics and neotectonics for the nuclear industry (Eskom, Necsa) across South Africa, but more in detail in the southern Cape, the Northern Cape and northern Natal. At the time of our	Response from the CSIR and Seismicity Specialist: This comment is noted. It must be reiterated that the CSIR and SANBI are undertaking a Strategic Environmental Assessment (SEA) and as such the specialist studies commissioned were requested to be at a largely desktop level in order to identify potential opportunities and constraints at a strategic high level that could be used to inform the location of the Gas Pipeline corridors. Quantification of the risks was not part of the Specialist Terms of Reference. A semi-quantitative/qualitative assessment was required. The specialists assessed 125 km wide corridors that has been refined to the best 100 km wide corridors (i.e. those

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
			investigations, spectacular neotectonic disturbances were mapped on the coastal cliffs SW of Richards Bay. I would like to suggest a remedial action in the form of a focused neotectonic investigation of the Richards Bay area, with a report and a digital, geo-referenced map such as the one I recently completed for a client. In this particular case, my client (a major civil engineering group was confronted with a comparable situation in one of the great lakes of the East African Rift. The project was completed to the satisfaction of my client, who was then able to implement the most appropriate design criteria for a pipeline where it will cross over the Quaternary-active fault lines.	with as many low sensitivity areas as possible based on all features considered in the assessment). The entire 100 km wide corridor will not be developed with gas pipeline and each phase will only be developed if there is a viable business case, a confirmed source of gas and a guaranteed off-taker. Hence there is no guarantee regarding the Gas Pipeline development. However, once a specific project has been identified and proposed to proceed, there will be a requirement for a Basic Assessment process to be undertaken prior to the development actually taking place. During the Environmental Authorisation process, site verification and other assessments may be required. There will always be a need to verify the findings of the SEA on site per proposed project. Therefore, at the project specific level, once a project has been identified, there may be other studies that could be commissioned by the developer. Therefore, further investigation (i.e. a focused neotectonic investigation of the Richards Bay area) could be undertaken prior to construction, and if and when gas pipelines have been identified and proposed in the Richards Bay area. However, based on further discussions with Dr. Andreoli, it has been agreed that the need for a proposed seismotectonic-seismic hazard assessment for the Richards Bay area needs to be discussed with the City of UMhlathuze outside of and independent to the Gas Pipeline SEA.
Dr. Marco A. G. Andreoli	Independent Geological Consultant and Research Associate, School of Geosciences, Wits University	14 June 2019, Email Seismicity Chapter Gas Pipeline Page 12 Lines 28-33 Fig. 1 of Appendix B	The map published by Manzunzu et al. (2019) and here referred [see Fig. 1, Appendix B] derives its information from the Seismotectonic Map of Africa by Meghraoui et al (2016) that is quoted in the caption. In this earlier paper and map the faults were indicate as: *Active faults (<150 ka)*. A forensic analysis of the quoted publications (Meghraoui et., 2016; Manzunzu et al., 2019) and of available peer-reviewed literature (cf. Steenkamp et al., 2018, S.Afr. J. Geol. 121, 421-430) leads to conclude that the last movement along such faults has been shifted **arbitrarily** from <150 ka to ≤ 2.6 Ma.	**Response from the Seismicity Specialist**: Figure 1 in Appendix B of the Seismicity Assessment Report for the Gas Pipeline SEA is included as Figure 3 in Manzunzu et al (2019). This has been clarified in the caption of Figure 1 in Appendix B. Manzunzu et al (2019) refer to Meghraoui et al (2019) in the text of their article. The reference is to the article that was published in Episodes in March 2016, rather than to the map that was released in at the 35th International Geological Congress in Cape Town in August 2016. The suggested reference to the wall map is the reference to the Episodes 2016 article.

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				It is indeed true that the description of fault ages differs between Meghraoui et al (2016) and Manzunzu et al (2019). Meghraoui et al (2016, p. 11) state that the neotectonic map for Africa database includes "a database of neotectonic structures with Quaternary faulting" (i.e. <2.58 Ma). Fig. 2 in Meghraoui et al (2016) shows two classes of faults, 'crustal faults' and 'active faults (< 150 ka)', distinguished by colour and thicknesses; while the faults shown on Fig. 7 appear to be only the 'active faults'. Presumably the 'crustal faults' are considered to have been active in the Quaternary (<2.58 Ma) but not active since 150 ka. Manzunzu et al (2019) distinguish between 'major faults' and 'active faults'. Comparison of the maps shows that the 'major faults' in Manzunzu et al (2019) correspond to the 'active faults' in Meghraoui et al (2016). Manzunzu et al's (2019) 'active faults', shown in yellow, are a smaller subset. Manzunzu et al (2019) provided further clarification (personal communication, 15 August 2019): "The active faults are Quaternary faults or were reactivated recently. We agree our active faults (in yellow) are a subset of active faults of Meghraoui et al. I think you should take it that the results in Manzunzu et al., 2019 are an update of the work in Meghraoui et al, where we had a bit more information to help us identify so called active faults, mainly through published geological information and by association with seismicity". This information has been included in the revised report. What does emerge is that relatively little is known about fault activity in South Africa. This is clearly stated in Table 2 (assumptions and limitations of the study) of the Seismicity Assessment Report (Appendix C.2 of the Gas Pipeline SEA Report).

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				The authors of the Seismicity Assessment chapter thank Dr Andreoli for bringing the article by Hobday and Jackson (1979), Jackson and Hobday (1980) and Kruger and Meyer (1988) and Steenekamp et al. (2018) to our attention. We discuss and cite them in the appropriate sections of our report, i.e. Section 3.2 (Background) in the main report, and Neotectonic studies in Appendix A of the Seismicity Assessment Report (Appendix C.2 of the Gas Pipeline SEA Report). Table 4 (Corridor Sensitivities) of the Seismicity Assessment Report for the Gas Pipeline SEA has also been amended to indicate that there are other capable faults in the Phases 3, 4 and 7 gas pipeline corridors in addition to the Tugela Fault.
Dr. Marco A. G. Andreoli	Independent Geological Consultant and Research Associate, School of Geosciences, Wits University	14 June 2019, Email Seismicity Chapter Gas Pipeline Page 14 Lines 33-36 Fig. 3	In pages 14 and 15 of the Document its authors maintain the superiority of the Probabilistic Seismic Hazard Assessment (PSHA) method over the parametric-historic (P-H) procedure by Kijko & Grantham (1998, 1999) toward the assessment of the hazard posed by tectonic seismicity. Seismotectonic data in the public domain (as peer review full length articles, University dissertations, open file Necsa Reports and conference proceedings) indicate that PSHA method, though theoretically correct, is intrinsically flawed, especially in respect of PGPN corridors 1, 4 and 7 (Richards Bay area) for the reason expressed below.	**Response from the Seismicity Specialist**: The authors are puzzled by Andreoli's assertion that we "maintain the superiority" of the PSHA method of the P-H procedure. We have tried to be even-handed, pointing out the difference between the methods and their predictions of ground motion, stating that the "ultimate test lies in the accuracy of their predictions", which will take centuries to confirm. Unfortunately, Dr Andreoli did not provide the authors with references to the articles, dissertations, Necsa reports and conference proceedings that "indicate that PSHA method, though theoretically correct, is intrinsically flawed". There are several other approaches to seismic hazard assessment apart from PSHA and the P-H methods, such as the Deterministic (DSHA) and Neodeterministic (NDSHA) methods. The choice of method is governed by the objective of the assessments (e.g. for national planning, design of critical structures such as nuclear power stations and hospitals), and the quality and completeness data (e.g. earthquake catalogues, ground motion prediction equations, description of active faults). Comparisons between the methods have been published (see, for example, 'Seismic Hazards and Risk Assessment in Engineering Practice' by P Somerville and Y Morwaki, in Intentional Handbook of Earthquake & Engineering

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				Seismology, Part B (2003), produced under the auspices of Committee of Education of the International association of Seismology and the Physics of the Earth's Interior (IASPEI), in collaboration with the International Association of Earthquake Engineering (IAEE). The authors believe that the PSHA method is appropriate for a study of this scale. It was used to produce the Global Seismic Hazard Map, released in December 2018. The Global Earthquake Model (GEM) Global Seismic Hazard Map is a product of the GEM Foundation. Initiated by the OECD's Global Science Forum in 2006, GEM was formed in 2009 as a non-profit foundation in Pavia, Italy, funded through a public-private sponsorship with the vision to create a world that is resilient to earthquakes. Participants represent national research, applied science or disaster management institutions, the private sector and international organisations. GEM's collaborative network comprises more than 70 public and private institutions organised under more than 25 regional, national and multilateral projects. The reference is provided below: M. Pagani, J. Garcia-Pelaez, R. Gee, K. Johnson, V. Poggi, R. Styron, G. Weatherill, M. Simionato, D. Viganò, L. Danciu, D. Monelli (2018). Global Earthquake Model (GEM) Seismic Hazard Map (version 2018.1 - December 2018), DOI: 10.13117/GEM-GLOBAL-SEISMIC-HAZARD-MAP-2018.1 https://www.globalquakemodel.org/africa-model-release
Dr. Marco A. G. Andreoli	Independent Geological Consultant and Research Associate, School of Geosciences, Wits University	14 June 2019, Email Seismicity Chapter Gas Pipeline Page 15 Lines 22 - 23	The elevated seismicity of certain parts of South Africa, namely the Northern Cape, appears to be a recent phenomenon of increasing strain rate, becoming quite apparent in 1996, as shown by Necsa's Vaalputs seismic monitoring records (Andreoli et al., 2009, SAGA Biennial Technical Meeting and Exibition, Swailand, 4 pp; Malephane et al., 2013, 13th SAGA Biennial Technical Meeting and Exibition, Kruger Park, 4 pp.). It is arguable that this episode of enhanced strain rate in the Northern Cape over the past 23 years is a repeat of earlier "swarms" such as those previously experienced at Koffiefontein	**Response from the Seismicity Specialist**: The authors take note of Dr Andreoli's references to papers published in the proceedings of scientific meetings that were held in 2009 and 2013 that describe seismicity in the Northern Cape. These have been included in the appropriate sections of the report (i.e. Seismicity Assessment Report (Appendix C.2 of the Gas Pipeline SEA Report)). We would, however, like to make several comments.

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			and Ceres-Tulbach in the 20th century, among others.	1. The period of sensitive recording and the duration of the seismic 'swarm' (23 years) is very short in terms of the typical time scale of continental deformation. Consequently, it is difficult to extrapolate trends with confidence. 2. Seismicity may be indicative of the release of strain energy that has accumulated over a long period of time, rather than indicative of a sudden increase in strain. See, for example, Calais, E., Camelbeeck, T., Stein, S., Liu, M. and Craig, T.J., 2016. A new paradigm for large earthquakes in stable continental plate interiors. Geophysical Research Letters, 43(20), pp.10-621. Calais et al (2016) discuss earthquakes in Stable Continental Regions (SCRs) and argue "SCR earthquakes are better explained by transient perturbations of local stress or fault strength that release elastic energy from a prestressed lithosphere. As a result, SCR earthquakes can occur in regions with no previous seismicity and no surface evidence for strain accumulation. They need not repeat, since the tectonic loading rate is close to zero. Therefore, concepts of recurrence time or fault slip rate do not apply. As a consequence, seismic hazard in SCRs is likely more spatially distributed than indicated by paleoearthquakes, current seismicity, or geodetic strain rates."
Dr. Marco A. G. Andreoli	Independent Geological Consultant and Research Associate, School of Geosciences, Wits University	14 June 2019, Email Seismicity Chapter Gas Pipeline Page 20 Table 4	**Corridor 3** - The statement "active faults are confined to mining areas" is wrong, inconsistent with the published data. Gauteng: a <175 ka thrust fault described by Steenkamp et al., 2018, S. Afr. J. Geol. 121, 421-430 in an opencast mine near Brits, West of Pretoria. More examples KZN - Prominent N-S striking neotectonic faults of the East African Rift system displace Quaternary deposits, including the 70 ka lignite of the Port Durnford Formation in the Richards Bay - St Lucia area (Andreoli et al., 1996, and references therein; Jackson and Hobday, 1980, Amer. J. Sci. 280, 333-362). **Corridor 4**: the same faults described for corridor 3 continue through northern KN into southern Moambique (Andreoli et al., 2006 and references therein).	**Response from the Seismicity Specialist**: The authors thank Dr Andreoli for bringing the article by Steenekamp et al. (2018) to their attention. A brief discussion on this paper has been included in Appendix B and Table 4 (Corridor Descriptions) and it has been cited in Appendix B of the Seismicity Assessment Report for the Gas Pipeline SEA (Appendix C.2).
Dr. Marco A. G. Andreoli	Independent Geological	14 June 2019, Email	**Neotectonic studies**: The only paper quoted in this paragraph is that by Andreoli et al. of 1996. Since this widely referenced	**Response from the Seismicity Specialist**: The authors thank Dr Andreoli for bringing the articles by Hobday and Jackson

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	Consultant and Research Associate, School of Geosciences, Wits University	Seismicity Chapter Gas Pipeline Appendix A, 35 Lines 5 - 12	paper (and even before) independent researchers and the Necsa-lead team have produced an extensive set of peer-reviewed papers, dissertations and public domain Conference abstracts. It is arguable that the authors of this section should have been taken into consideration at least some of these more recent works to avoid the misinterpretations considered below.	(1979), Jackson and Hobday (1980) and Kruger and Meyer (1988) and Steenekamp et al. (2018) and the abstracts presented at the SAGA and AfricaArray conferences to their attention and have cited them in Appendix B of the report. However, it should be noted that some of the reports, dissertations and conference proceedings are not peer reviewed and are difficult to access as they are not digital. Dr. Andreoli was contacted in July 2019 to discuss how to gain access to the Necsa reports referred to, as well as references to other articles, dissertations and conference abstracts. However, feedback was pending at the time of finalization of the Gas Pipeline SEA. Nevertheless, information has been added and relevant sections of the Seismicity Assessment Report has been updated to address the general concerns made by Dr. Andreoli (i.e. Appendix A of the report, which is included in Appendix C.2 of the Gas Pipeline SEA Report). The overall findings and recommendations of the Seismicity Assessment Report has not changed, and the need for further site specific assessments in regions that might have capable faults is still recommended. As noted above, further neotectonic studies of the greater Richards Bay area should be discussed with the local authorities independent to the Gas Pipeline SEA.
Dr. Marco A. G. Andreoli	Independent Geological Consultant and Research Associate, School of Geosciences, Wits University	14 June 2019, Email Seismicity Chapter Gas Pipeline Appendix A, 35 Lines 21 - 22	The statement is indeed quoted almost *verbatim* from Bird et al., 1996. However, the problem rests on that word "primarily" (line 22) that was inserted to account for those areas of southern Africa where the orientation of Shmax, and Sigma 1 differ significantly from the outputs of the finite elements computer programme. A more careful reading of the cited references (Andreoli et al., 1996; Bird et al., 2006) and additional publications on the neotectonics of South Africa in the public domain (cf. Viola et al., 2005, EPSL 231, 147-160; Viola et al., 2012, Tectonophysics 514-517, 93-114) would have alerted the authors that the Wegener stress Anomaly as expressed in the western part of South Africa (e. g. the Northern Cape; also: Western Namibia) is **unreconcilable** with the models	**Response from the Seismicity Specialist**: The authors regard the computer model of the southern African stress field published by Bird et al (2006; Dr Andreoli was a co-author) to be an important contribution to the study of the stress field in southern Africa. However, as pointed out by Dr Andreoli, there are some difficulties with the paper, not least being the boundary between the Nubian and Somalian plates, which was defined by joining the epicenters of earthquakes that are mining-induced and not tectonic in origin. This plate boundary continues to be used in posters published by the US Geological Survey, despite the error being pointed out in

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
			tested in the paper by Bird et al. (2006). As clearly expressed in those articles the Wegener stress Anomaly represents a region of the southern African plate where Sigma 1 is horizontal (and striking NW to NNW) where all the published geodynamic computer models make it vertical (and SHmax striking NW to NNW)	a letter to them by one of the authors (Durrheim) following the 2007 Machaze earthquake. However, a detailed analysis of the stress field was outside the scope of the Seismicity Assessment for the Gas Pipeline SEA.
Dr. Marco A. G. Andreoli	Independent Geological Consultant and Research Associate, School of Geosciences, Wits University	14 June 2019, Email Seismicity Chapter Gas Pipeline Appendix A, 35 Lines 44 - 49	Once again an important article, in this case the one by Malservisi et al., 2013, is quoted selectively. Indeed these authors state that "the South African region behaves rigidly, with deformation" of the order of 1 nanostrain yr−1 or less." However, the next sentence reads that "T*he analysis shows some higher strain rates in the eastern region, and the presence of spatially correlated residuals in the Cape Town region and the region east of Johannesburg. Although not statistically significant, the spatial coherence of those residuals* ***could indicate tectonic activity".*** According to the data presented by Malservisi et al 2013 (cf. Fig. …) the stations between Hermanus and the Saldana Bay area show a residual velocity vector oriented NW to NNW relative to the stations further to the north and east. In northern KN the stations at Richards Bay and Ulundi show weak velocity vectors oriented toward Durban, Pietermaritzburg and Ladysmith.	<u>Response from the Seismicity Specialist</u>: Dr Andreoli is correct in emphasising that the paper by Malservisi et al (2013) does not claim that the region is perfectly rigid, but that deformation is exceedingly slow. Seismic activity demonstrates that there is continual tectonic activity and that destructive events do occur from time to time. The difficulty is in determining when and where the large events will occur.

2.16. Agricultural Impacts

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Part 3.7 Additional Impacts Page 10 Line 33	Although Section 2.2.7 (Impact description and mitigation) indicates that if a gas servitude were to be implemented on a property containing crops, then the servitude agreement will specify the type of crops that can be grown within the servitude. Other types of agricultural activities should also be specified for activities within the servitude, as well as in the buffer area of the proposed gas pipeline corridor.	<u>Response from iGas</u>: It is important to note that affected landowners will definitely be made aware of the conditions as the developer will carry out detailed negotiations with the affected landowners for servitude registration. Re-zoning will not take place without the consent of the affected landowners. The affected landowners will be compensated by the developer for servitude construction over their properties. The details of this will be discussed between the affected parties. It should also be noted that before a licence is granted to the

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
				pipeline operator by the National Energy Regulator of South Africa (NERSA), the application would need to be advertised by the operator and a copy of the application would need to be made available to affected parties for review for a set period of time. All comments raised by the affected parties would need to be addressed by the pipeline operator before the licence is issued by the NERSA. The application includes terms and conditions that land owners need to be aware of.
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 3.7 Additional Impacts Page 7 Line 1 - 115	Irrigation infrastructure and farm accommodation (farmsteads, employee homes) have not been identified as sensitive features within agricultural contexts. Their presence could influence the suitability of certain route choices. Irrigation infrastructure would include dams, irrigation canals, abstraction infrastructure (diversion weirs and off-take structures, pump stations and pump foundations, boreholes and electrical installations) and irrigation systems within orchards and vineyards. Disruption of this infrastructure may result in adverse impacts on agricultural production from the level of individual land parcels to farming regions and sectors serviced by irrigation schemes. It is important to recognise that even at the relatively coarse scale of corridor selection, areas supporting irrigation schemes should emerge as mappable features within the receiving landscape (i.e. as distinct from more localised infrastructure which can probably not be picked up by broad scale mapping, and which would have to be identified during route selection and the EIA processes). The absence of information and assessment relating to irrigation infrastructure as a potentially significant source of agri-environmental sensitivity represents a gap in the agricultural assessment (and potentially the identification and assessment of technical constraints). This gap needs to be addressed by the SEA process.	Response from the Agriculture Specialist: Most of the features identified in this comment cannot be taken into account at the scale of corridor evaluation. They only really become relevant for the final positioning of the pipeline within the corridor. It must be remembered that a gas pipeline is a linear infrastructure which can easily be routed to avoid many of the features included in the comment, such as boreholes. All irrigated lands are included in the very high agricultural sensitivity category, and by implication, irrigation schemes and areas with intense irrigation will show up on the sensitivity analysis as being of very high agricultural sensitivity. In addition, from an engineering constraints perspective, crossing orchards, vineyards and pivot agriculture (irrigated areas) has high cost implications in terms of removing the necessary infrastructure in order to route a gas pipeline through these areas. Therefore, these areas will be avoided along with the irrigation infrastructure within it. Applicable recommendations made in this comment have been included in the Generic Environmental Management Programme (EMPr) to ensure that these are taken into consideration during the project specific, Basic Assessment Process. Consultation with relevant authorities and stakeholders (such as the Department of Water and Sanitation) will be undertaken during the Basic Assessment Phase as well.

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			It is recommended that that the Department of Water and Sanitation, provincial agriculture departments, affected catchment agencies, water user associations and irrigations boards be approached for information on: ▪ The location of irrigation infrastructure that can be mapped at the scales that have applied to this SEA; ▪ The extent and costs of disruption to agricultural productivity if such infrastructure were to be put out of commission, either temporarily or permanently; and ▪ Which irrigation infrastructure needs to be avoided *in toto* by any gas pipelines and related activity.	
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 3.7 Additional Impacts Page 7 Lines 1 - 115	Although the issue of farm accommodation and settlements would also feature as a focal area of concern under the aegis of the social constraints' analysis and the social impact assessment, it must be emphasised that farms can represent important locii of settlement and vulnerability. Again, the identification of such features relative to the scale of mapping and analysis does emerge as a methodological issue, but farm accommodation must not be ignored as a potential source of adverse impacts or as a mappable constraint to inform the sensitivity of the receiving environment and the pinch point analysis. Relatively large concentrations of people can be expected on farms during particularly harvest seasons, or on large, labour-intensive operations. These people must be accommodated, and their accommodation can be identified and mapped where this amounts to on-farm settlement as opposed to simple residence. The social dimension of potential adverse impacts on farm-based people and communities needs to be highlighted and investigated.	**Response from the Settlement Planning, Disaster Management and related Social Impacts Integrating Author**: With regards to public health and safety, the Gas Pipeline developments will be designed according to best practice measures, as well as national and international standards. Adequate mitigation measures will be implemented as per the Generic Environmental Management Programme (EMPr). The Settlement Planning, Disaster Management and related Social Impacts chapter of the Gas Pipeline SEA Report (Appendix C.3) considers key social, settlement planning and development considerations relevant to the development of the gas pipeline corridors, and outlines the various parties that need to be involved in disaster management as part of the proposed gas transmission pipeline operations. This chapter also assesses Health and Safety impacts associated with the operation of a gas transmission pipeline, as well as Health Risks associated with a gas transmission pipeline leak or fire in rural, urban and metropolitan areas (where the rural areas are assessed according to extensive farms, small-holding farms and rural villages). Adequate mitigation measures have been provided for these impacts. Furthermore, the impact of resettlement and relocations/displacement is considered as part of the Settlement Planning, Disaster Management and related Social Impacts Assessment Chapter (Appendix C.3 of the Gas Pipeline SEA

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
			Similarly, farm-based accommodation and settlements (insofar as this is technically feasible) need to be factored into the agri-environmental constraints' analysis. The agricultural and social impact assessments generally need to report more explicitly on the potential vulnerability and sensitivity of farms and their dependent communities to adverse impacts that may result from the construction and operation of the gas pipelines. Limits of acceptable social change need to be identified w.r.t. particularly farms and farming areas, and these must inform the design and selection of the final corridors. This needs to be an open, consultative process.	Report). Measures have been included to address relocation impacts and any such relocations/displacement, although highly unlikely, must adhere to the international best practice guidelines and any evictions process must adhere to the provisions included in the Prevention of Illegal Eviction from Unlawful Occupation of Land Act. The Settlement Planning, Disaster Management and related Social Impacts Assessment Chapter (Appendix C.3 of the Gas Pipeline SEA Report) also considers the movement of construction workers on and off site in rural areas, which may lead to anti-social activities within local communities and amongst farmers and farm workers in the vicinity of the construction site. In addition, the assessment has also recommended that a Monitoring Forum should be developed to monitor the implementation of the recommended mitigation measures. The forum should include key stakeholders, including representatives from the relevant local municipalities, **farmers, local farming unions**, local community representatives etc. The forum should also be briefed on the potential risks to the local community and farm workers associated with construction/maintenance workers. Based on the above, potential adverse impacts on farm-based people and communities have not been ignored and been adequately addressed in the Settlement Planning, Disaster Management and related Social Impacts Assessment Chapter (Appendix C.3 of the Gas Pipeline SEA Report). The Sensitivity Analysis undertaken in this Gas Pipeline SEA has captured farming areas (such as, but not limited to, irrigated areas, shadenet, horticulture, and viticulture), and land cover. It is not technically feasible at this scale of the SEA to include farm-based accommodation and settlements into the Sensitivity Analysis. However, these features will be taken into consideration during the project specific Basic Assessment phase, as applicable.
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 3.7 Additional	**Gas Pipeline Development and Agricultural Consent** We cannot agree with the blanket statement that gas pipelines would have a 'low' to 'medium' impact on agriculture. This can only be concluded on the basis of	**Response from the Agriculture Specialist**: The agricultural disturbance from a gas pipeline is very similar to the agricultural disturbance resulting from an irrigation pipeline. Given the number of irrigation pipelines installed on operational farms without significant negative impacts to production on those farms, it is

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
		Impacts Pages 10 – 11 Lines 128 – 148; 1 - 23	more detailed assessment and the inclusion of irrigation infrastructure, as outline above, within the suite of factors that must inform the sensitivity of the receiving agricultural environment and the constraints that agriculture may pose to the final selection of pipeline corridors.	reasonable to conclude that installation of a gas pipeline will similarly have minimal negative impact. As noted above, the Health and Safety impacts associated with the operation of a gas transmission pipeline are assessed in the Settlement Planning, Disaster Management and related Social Impacts chapter of the Gas Pipeline SEA Report (Appendix C.3). As stated above, avoidance of some of the more detailed features, such as boreholes, are relevant to the detailed pipeline routing and not the overall corridor.
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 3.7 Additional Impacts Pages 10 – 11 Lines128 – 148; 1 - 23	Landowners who are being expected to contract into the development through servitude agreements must themselves be allowed to decide on the significance of impacts on their farming activities and income and livelihood security, and whether they are prepared to countenance such impacts and absorb the attendant costs. This cannot be left to a desktop exercise that draws inferences about the potential economic and social implications of gas pipeline development for individual landowners without the latter having had a reasonable opportunity to inform the corridor selection process and determine the implications of the proposed developments for their rights and interests.	**Response from the Agriculture Specialist**: Again, it is believed that this is a concern related to the detailed pipeline routing and to the establishment of individual servitudes, and not to the entire 100 km wide corridor. As noted above, it is obviously impossible to engage with every individual landowner within a corridor of the size under consideration. **Response from the CSIR:** Even though the SEA Process is largely a desktop exercise it does not detract from the significance of the findings, which have been informed by a range of specialist inputs, including Agriculture and Social Impacts. The potential economic and social implications for landowners and impact on farmers within the 100 km wide corridors are generally captured in these assessments at a high-level. At SEA level, the actual pipeline route is not known, therefore the actual affected landowners are not known, and as a result potential economic and social implications for gas pipeline development for individual landowners cannot be assessed at this stage. However, as noted above, once a specific gas pipeline project has been identified, a Basic Assessment Process will be undertaken in compliance with the Decision-Support Outputs compiled as part of the SEA (i.e. Generic Environmental Management Programme (EMPr), and Protocols). This process will include a comprehensive Public Participation Process and where necessary, specialist assessments. In addition, as a separate process, the National Department of Environmental Affairs (DEA) published, for a 30 day comment period, on 10 May 2019, in Government Gazette 42451 and Government Notice 648, the procedures to be followed (i.e. protocols) for the assessment and minimum criteria for reporting

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
				of identified environmental themes in terms of Section 24(5)(a) and (h) of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA). Various themes were published for comment and have not been finalised yet. A protocol for the assessment and reporting of environmental impacts on agricultural resources was developed in collaboration with DAFF and published for comment, which stipulated that any development triggering the need for an Environmental Authorisation will require a site verification prior to the assessment process to determine and verify the site land use and environmental sensitivity. Thereafter, either an Agricultural Agro-Ecosystems Assessment will need to be undertaken or an Agricultural Compliance Statement will need to be submitted based on the site sensitivity. Sections 4.2.4.7 and 4.2.4.8 of the Agricultural Impacts Chapter (Part 4.2.4 of the Gas Pipeline SEA Report) describes the interpretation of the agricultural sensitivity and associated assessment requirements inside the Gas Pipeline Corridors. It is recommended that the process of agricultural authorisation for gas pipeline development inside the corridors triggering an Environmental Authorisation process is done in terms of an exemption from the requirements stipulated in the Draft Preservation and Development of Agricultural Land Framework Bill, and that an Agricultural Compliance Statement be prepared. Therefore, the actual site conditions will be verified before the actual assessment phase.
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 3.7 Additional Impacts Pages 10 – 11 Lines 128 – 148; 1 - 23	As previously indicated, it is vital that stakeholders be given an example of a servitude agreement so that this can be independently reviewed by lawyers before final decisions are taken about the alignment of corridors, and these are put forward for a Cabinet decision.	**Response from iGas**: This comment and suggestion is noted. It is important to re-iterate that all the requirements of the landowners will be negotiated in a negotiation agreement with the pipeline developer. The land will not be expropriated. The pipeline developer will enter into a servitude agreement with the affected landowner, and the landowner will be aware of the pipeline and the operational procedures and restrictions. It must be noted that the example, if provided, will not be binding on any party wishing to develop a pipeline. While the servitude agreements are still to be developed, the limitations will be on permanent structures within the safety zones,

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
				and not necessarily on any activity within that zone. The servitude agreement will for example specify the restrictions on what vegetation can be grown within the servitude (i.e. prohibit deep rooted plants). The agreement may also provide recommendations on ploughing i.e. making sure that ploughing does not exceed 1 m depths within the servitude and that suitable machinery is used etc. **Response from the CSIR**: It is important to also point out that a servitude agreement is not generic. Each project will have specific requirements and different conditions that might be included in the agreement. Some details of the agreement might also include confidential landowner information. In addition, reviewing the servitude agreement is not believed to be a significant factor that will change the outcome of the SEA Process. Such a review can be undertaken during the project specific stage, if necessary.
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 3.7 Additional Impacts Pages 10 – 11 Lines 128 – 148; 1 - 23	We also disagree that it would be sufficient for agricultural compliance statements to be drafted (a) in terms of legislation that, at the time of writing, is not yet in force and (b) norms and standards have not been gazetted, on the basis of a consultative process, for geographic areas (viz. the gas pipeline corridors) in which specified activities may be excluded from the requirement for environmental authorisation in terms of sections 24(2)(c) and 24(2)(d) of the National Environmental Management Act 107 of 1998. Also, if such exceptions from the NEMA EIA regulations were not to be in force by the time that the gas pipeline developer would be in a position to apply for environmental authorisation for the relevant activities, it would be incumbent upon the responsible competent authorities to determine the type, scope and level of assessment would be appropriate for such applications. It would be undesirable (if this can be argued as a legal option), for competent authorities to give up their powers and mandates to determine what would be sufficient in order to ensure informed decision that conforms to all the relevant requirements	**Response from the CSIR**: Kindly refer to the responses provided above in Section 2.10 of this chapter (referring to the comments made on the *Applicable Listed Activities, Streamlining of the Environmental Authorisation Process, Standards and Minimum Information Requirements for the Gas Pipeline SEA*) (contained in Appendix A.7.10 of the Gas Pipeline SEA Report). These responses explain that based on the comments received from stakeholders and based on discussion with authorities, the option to allow exemption from an Environmental Authorisation for gas pipeline development within the corridors, via implementation of Standards, has not been adopted. Instead, a Basic Assessment Process will be undertaken for gas pipeline development within the corridors via compliance with the EIA Regulations and a Generic Environmental Management Programme (EMPr) that has been compiled as part of this process. Therefore, the Generic EMPr includes relevant recommendations pertaining to agricultural impacts and management actions that would need to be considered during the development stage. Refer to the responses provided above in this section for a description of the protocols that were gazetted for comment in May 2019 by the Department of Environmental Affairs (DEA).

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
			of NEMA and associated specific environmental management Act because another law (currently a draft Bill) would potentially permit a less rigorous approach to agricultural investigations. This cannot be supported.	If the Decision-Support Outputs of the SEA Process are not gazetted or enforced by the time that the project developer is in a position to apply for Environmental Authorisation, then the status quo will remain (i.e. the current process for Environmental Authorisation would be followed) and the Competent Authority would not need to determine the type, scope and level of assessment that would be appropriate for such applications.
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 3.7 Additional Impacts Pages 10 – 11 Lines128 – 148; 1 - 23	In short, agricultural compliance statements, as proposed by the SEA, cannot be accepted as an adequate agri-environmental safeguard for the purposes of expedited gas pipeline development.	Response from the Agriculture Specialist and CSIR: Kindly refer to the responses provided above, within this section, which deal with agricultural compliance statements. As noted in the Agricultural Impacts Chapter (Part 4.2.4 of the Gas Pipeline SEA Report), the Draft Preservation And Development of Agricultural Land Framework Bill, once promulgated, will repeal the Subdivision of Agricultural Land Act (Act 70 of 1970) (SALA). Currently, any servitude or use of an agriculturally zoned piece of land for non-agricultural purposes requires an official agricultural authorisation from the Department of Agriculture, Forestry and Fisheries (DAFF) in terms of the SALA and the Draft Bill. On the other hand, the servitude agreement will be discussed between these parties in detail before sign-off. Compensation for damaged crops and farming restrictions within the servitude etc. would be captured in the agreement. In addition, the pipeline developer will pay the private landowner market value for a 10 m wide servitude, and will also pay for any other land damage during the construction phase on the 30 – 50 m wide right-of-way. Specific aspects relating to the servitude agreements with individual landowners or famers can only be addressed during the project specific stage and assessment phase, once a gas pipeline project has been identified for development. At this SEA level, individual pipeline routes are not known, therefore the actual affected landowners cannot be identified.
Charl de Villiers	Agri Western Cape	25 June 2019, Email Part 3.7 Additional Impacts	Further, the Draft Preservation and Development of Agricultural Land Framework Bill does not require that agricultural planning and assessment must be premised on the identification – through the systematic assessment and elimination of unsustainable alternatives, in line with the mitigation	Response from the Agriculture Specialist: This comment seems to be an issue related to the proposed Preservation and Development of Agricultural Land Framework Bill itself and it does not relate specifically to this Gas Pipeline SEA. It applies to all developments within the mandate of the Bill itself.

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
		Pages 10 – 11 Lines 128 – 148; 1 - 23	hierarchy and duty of care -- of the best practicable environmental option for proposed agricultural developments. These are bedrock principle in our system of integrated environmental management which have not, to date, been integrated with the Draft Bill in question.	Response from the CSIR: It should be re-iterated that the Decision-Support Outputs compiled as part of this SEA (i.e. Generic Environmental Management Programme (EMPr), and Protocols) are structured around ensuring that the best practicable environmental option for the environment and various features (as best as possible) are considered during the Assessment Phase and implemented (where possible) during development. Furthermore, as part of the Basic Assessment process, there is a requirement in terms of the Environmental Impact Assessment (EIA) Regulations that the motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location must be assessed. Relevant guidelines for the assessment of Needs and Desirability recommend that consideration must be given to determine if the development is the best practicable environmental option for the land/site.

2.17. Biodiversity and Ecology (Terrestrial and Aquatic Ecosystems, and Species) – Integrated Biodiversity Assessment Chapter

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
Rhett Smart	CapeNature, Scientific Services	10 June 2019, Email	In terms of the broad categories which have been selected in identifying the biodiversity sensitivities, these are supported, with the Western Cape Biodiversity Spatial Plan utilised as the broad overarching biodiversity informant for the Western Cape Province. We do wish to note with regards to the protected area data that there are discrepancies between the various databases and we recommend that there should be engagement with the provincial conservation agencies to ensure the accuracy of this data. Apart from the sensitivities related to protected areas, it must be ensured that the National Environmental Management: Protected Areas Act (NEM:PAA, Act 57 of 2003) is adhered to. Protected areas should be avoided as far as possible, however if this cannot be achieved it must be ensured that any infrastructure is reflected in the	Response from the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) Integrating Author: It is recognised that inherent discrepancies and inaccuracies exist in spatial data. However, the latest, freely accessible and available data (at the time of compiling the specialist assessments forming part of the SEA) were used. For Protected Areas these were the South African Protected Areas and Conservation Areas Databases 2018 Q2 data, together with any additional protected/conservation areas from relevant provincial conservation plans. In the event that any development is at a stage to be implemented (i.e. actual route plotting, construction and operations) the latest available data at that time needs to be considered and ground-truthed/verified as part of the project specific Basic Assessment phase.

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
			protected area management plan (PAMP) and that there is approval from the management authority. We would also recommend that other non-NEM:PAA conservation areas are included, such as Biodiversity Agreements as high sensitivity.	As part of the Gas Pipeline SEA, a Generic Environmental Management Programme (EMPr) has been compiled. The Generic EMPr includes a list of various impacts and management actions, based on the findings of the SEA and specialist input, that relate to the gas pipeline development within the corridors (once they are gazetted). The Generic EMPr does note that adherence to other applicable legislation must be adhered to, including adherence to the National Environmental Management: Protected Areas Act (NEM:PAA, Act 57 of 2003). Furthermore, the Generic EMPr notes that Protected Areas should be avoided as far as possible, and where this cannot be achieved it must be ensured that there is approval from the relevant management authority. Response from SANBI: As part of the National Biodiversity Assessment 2018, SANBI undertook an exhaustive review of Protected Areas, incorporating provincial agency, SANParks and the Department of Environmental Affairs (DEA's) South African Protected Areas Database (SAPAD) data to get the most comprehensive spatial footprint of what is being managed as Protected Areas. This layer has been used in the final pinch point analysis to make sure that Protected Areas or areas managed as Protected Areas that are not yet gazetted, are not listed as Very High Protected Areas. SANBI also recently undertook an exercise to collate all levels of Stewardship sites into one spatial data set. The SANBI SEA team are still awaiting feedback from a few provinces; however the biodiversity agreements were added as High sensitivity in the final corridor refinement.
Rhett Smart	CapeNature, Scientific Services	10 June 2019, Email General	We do wish to query the specialist studies that were undertaken as it appears that this is a replication of the SEAs for wind and solar PV and EGI, without particular reference to the impacts related to the subject activity, namely gas pipelines. For the aforementioned SEAs there are specific impacts related to flight, both for fauna and aircraft, however gas pipelines do not pose this same particular risk. The impacts on birds and bats would be encompassed in the impacts related to habitat loss which would be relevant to all fauna.	Response from the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) Integrating Author: Box 24 in the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) (which is included in Appendix C.1 of the Gas Pipeline SEA Report) clearly states that potential impacts to birds and bats as a result of gas pipelines are mainly indirect via habitat clearance. This is indeed also relevant to all other terrestrial fauna. Birds and bats were specifically included for the EGI Expansion SEA assessments as these do have established impacts to

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
				specifically birds, and highlighted in the Gas Pipeline SEA assessments as birds and bats are often one of the main concerns during Environmental Impact Assessments.
Rhett Smart	CapeNature, Scientific Services	10 June 2019, Email General	The impacts related to habitat loss are encompassed in the sections related to the biomes traversed, and there is reference to both fauna and flora. In this regard we do wish to note that the loss of habitat is the most significant cause of the loss of biodiversity by a considerable margin. If any fauna could be considered to have a specific impact as a result of gas pipelines that is not encompassed by the biome chapters, it would be subterranean fauna as a result of excavation. Impacts on avifauna would of course still be relevant for the EGI Expansion SEA.	**Response from the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) Integrating Author**: This is agreed and it has been made more explicit in Section 6.1.1. of the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) for Gas Pipeline. It is noted in the Gas Pipelines assessment that fossorial fauna will be most vulnerable to excavation and blasting. Where data was available for fossorial Red Data species, these were included to guide route planning (e.g. potential Golden mole presence).
Ndivhudza Nengovhela	Gauteng DARD, Environmental Policy, Planning & Coordination	19 June 2019, Email Integrated Biodiversity Chapter – Gas Pipeline Page 175 Line 1	The workers must also be trained on the site.	**Response from the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) Integrating Author**: Section 8.2 of the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) (included in Appendix C.1 of the Gas Pipeline SEA Report) did refer to the need for environmental awareness of construction personnel. This section has been updated accordingly to mention that environmental awareness and training of construction workers should be undertaken on-site.
Ndivhudza Nengovhela	Gauteng DARD, Environmental Policy, Planning & Coordination	19 June 2019, Email Integrated Biodiversity Chapter – Gas Pipeline Page 175 Line 1	During construction phase - The report is quite on dust control during the construction and how this will be mitigated.	**Response from the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) Integrating Author**: Section 8 of the Integrated Biodiversity and Ecology Assessment (Appendix C.1 of the Gas Pipeline SEA Report), on which this comment is raised, states: ▪ *"In addition to the mitigation and management actions recommended in Section 6…"* Section 6 of the Integrated Biodiversity and Ecology Assessment makes a range of recommendations in terms of dust control and mitigation specific to impacts, for example: ▪ "Control dust to minimise impacts by regulating vehicle speeds and using geotextiles, particularly on soil dumps".

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
				▪ "Limit vehicle speeds to minimise potential collisions with animals and dust creation". ▪ "Implement dust suppression methods (e.g. spraying surfaces with water) to minimise the transport of wind-blown dust."
Sinethemba Madondo	Gauteng DARD, Environmental Policy, Planning & Coordination	19 June 2019, Email Integrated Biodiversity Chapter – Gas Pipeline Page 18 Lines 7, 8, 9	Sensitivity levels between provinces differ, with some provinces potentially using higher sensitivities than others. Provincial biodiversity conservation plans are used subject to all the assumptions that underpin the creation of those - Based on this statement, which conservation plan then takes precedence especially where the decision of the EA is concerned?	**Response from the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) Integrating Author**: "*Sensitivity levels between provinces differ, with some provinces potentially using higher sensitivities than others.*" was removed from Section 3.1 of the Integrated Biodiversity and Ecology Assessment (Appendix C.1 of the Gas Pipeline SEA Report) to avoid confusion – this statement relates to potentially different approaches and outcomes from conservation planning processes in different provinces. The conservation plan of each province is limited to the geographical boundary of that specific province. For example, if a development is proposed in Gauteng, the latest Gauteng C-Plan data will have to be considered in the project specific assessment, in Western Cape the latest Western Cape Biodiversity Spatial Plan etc.
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Integrated Biodiversity Chapter – Gas Pipeline Page 17 Lines 2 - 8	Some type of monitoring and maintenance will have to be done to ensure that the disturbed areas are successfully restored. Possible harvesting of seed may need to be done prior to the removal of topsoil to improve the chances of success during re-establishment of indigenous vegetation.	**Response from the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) Integrating Author**: Agreed. These monitoring measures were already recommended, for example, in Section 8.4 of the Integrated Biodiversity and Ecology Assessment (Appendix C.1 of the Gas Pipeline SEA Report). The possible harvesting of seed before topsoil removal has been added to the above assessment report, where applicable, in Section 6 – Impacts and mitigation, as noted below: ▪ "Harvest seed before top soil removal where necessary"; and ▪ "Rehabilitate using locally indigenous plant species (including any harvested seed and/or rootstock)".
Gerhard Gerber	Western Cape DEADP, Development	24 June 2019, Email	This section refers to the physical disturbance to soils, fauna and flora. The need for access roads is understandable; however, it raises various concerns.	**Response from the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) Integrating Author**: The following has been added to Section 6.1 of

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
	Facilitation	Integrated Biodiversity Chapter – Gas Pipeline Page 145 Section 6.1.1	These access roads generally have gravel surfaces and often are not developed on a hard under-surface. The gravel sections may create additional run-off channels for storm water and may have erosion impacts that could lead to the loss of soil and potentially the loss of indigenous vegetation. What are the mitigation measures to prevent or address this impact?	the Integrated Biodiversity and Ecology Assessment (Appendix C.1 of the Gas Pipeline SEA Report) to make potential erosion-causing elements more explicit - "Changes to surface stormwater runoff patterns and soil erosion where roads and other infrastructure is established". Measures to minimise soil erosion were already included and needs to be implemented regardless of the infrastructure component and/or construction, for example: ▪ "Control soil erosion and sediments in runoff through appropriate drainage and erosion control structures to minimise impacts on rivers and wetlands (e.g. barriers, geotextiles, active rehabilitation)"; ▪ "Monitor the condition of the infrastructure (including any access roads regardless of surface type) to ensure that there is no ongoing erosion occurring or exposed gas pipeline section." ▪ [Avoid] "Steep slopes where erosion may be more prevalent and inhibit rehabilitation success".
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Integrated Biodiversity Chapter – Gas Pipeline Page 163 Line 1 Box 27	Gas transmission pipelines may negatively impact efforts to conserve forests and farmland that play an essential role (on a landscape scale) in filtering rainwater that is ultimately used as a source of drinking water. The importance of avoidance in these sensitive ecosystems are supported.	**Response from the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) Integrating Author**: Noted, thank you.
Siphokazi Ncume	City of Johannesburg, Environment and Infrastructure Services Department	27 June 2019 Integrated Biodiversity Chapter – Gas Pipeline	**Gaps:** Pre-cautionary approach: ground truthing will be done and infield assessments will be done once the exact alignments have been established.	**Response from the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) Integrating Author**: This is a strategic-level, desktop assessment, aimed to identify potential environmental sensitivities based on existing spatial data at a high-level. The consideration of ecological pattern and process is limited by the resolution and scale of the spatial data. For site-specific routings of gas pipeline infrastructure, real-world conditions must be verified on the

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
				ground. These recommendations and requirements are included in the Generic Environmental Management Programme (EMPr) that has been compiled as part of this SEA. Site verification will always be a requirement for gas pipeline development within the corridors (once they are gazetted); however this does not detract from the findings and recommendations of the SEA Process. Kindly refer to the responses provided above in Section 2.10 of this chapter (Appendix A.7.10 of the Gas Pipeline SEA Report) that relate to the post-SEA streamlined project specific process.
Siphokazi Ncume	City of Johannesburg, Environment and Infrastructure Services Department	27 June 2019 Integrated Biodiversity Chapter – Gas Pipeline	**Gaps:** No cumulative impacts have been assessed	**Response from the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) Integrating Author**: At a strategic level, desktop assessment the consideration of cumulative impacts can be a challenging undertaking that may not have realistic or useful outcomes. At a site-specific scale once potential routings have been planned cumulative impacts may be determined, supported by information on impacts identified and discussed in the SEA.
Siphokazi Ncume	City of Johannesburg, Environment and Infrastructure Services Department	27 June 2019 General	**CONCLUSIONS AND RECOMMENDATIONS OF THE SPECIALIST STUDIES** Biodiversity impacts are unavoidable on a large scale projects: it is linear project and it has to avoid human settlements and agricultural land.	**Response from the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) Integrating Author**: Biodiversity impacts may not be avoided in totality, but the SEA aims to provide information that allows for most sensitive areas to be avoided, and any impacts to be minimised and managed (as per the mitigation hierarchy). **Response from the Settlement Planning, Disaster Management and related Social Impacts Integrating Author**: The avoidance of key areas that include town areas, service towns, dense rural settlements and high population areas has been included as a key recommendation included in the best practice measures outlined within the Settlement Planning, Disaster Management and related Social Impacts Report (Appendix C.3 of the Gas Pipeline SEA Report). **Response from the CSIR**: Areas of very high agricultural sensitivity have been identified in the Agricultural Impacts Chapter (Part 4.2.4 of the Gas Pipeline SEA Report), and will be avoided as best as possible.

2.18. Biodiversity and Ecological Impacts – Avifauna Chapter

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
Siphokazi Ncume	City of Johannesburg, Environment and Infrastructure Services Department	27 June 2019 General	**Avifauna:** The recommendations should be seen as generic and not replacing the project specific recommendations which will be generated for an individual project that requires an Environmental Impact Assessment.	**Response from the CSIR**: This comment is noted. Kindly refer to the responses provided above in Section 2.10 of this chapter (Appendix A.7.10 of the Gas Pipeline SEA Report) that deal with the streamlined approach of the project specific phase, following this SEA. These responses explain that based on the comments received from stakeholders and based on discussion with authorities, the option to allow exemption from an Environmental Authorisation for gas pipeline development within the corridors, via implementation of Standards, has not been adopted. Instead, a Basic Assessment Process will be undertaken for gas pipeline development within the corridors via compliance with the EIA Regulations and a Generic Environmental Management Programme (EMPr) that has been compiled as part of this process. The Generic EMPr includes the relevant management actions provided by specialists during the SEA. The generic EMPr will also be augmented by site specific management actions as required at project specific level.

2.19. Biodiversity and Ecological Impacts (Aquatic Ecosystems and Species) – Wetlands and Rivers Chapter

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email General Page 1 Line 3	"*Draft v3 Specialist Assessment Report for Stakeholder Review*". The date of the specialist assessment report should be provided.	**Response from the CSIR**: A versioning table has been added at the beginning the relevant Specialist Assessment Chapters included in Appendix C of the Gas Pipeline SEA Report to note the dates of the chapters. A single versioning table has been included upfront of the Integrated Biodiversity Assessment chapter (Appendix C.1 of the Gas Pipeline SEA Report) to include relevant dates of the Biodiversity Assessments. The "*Draft v3 Specialist Assessment Report for Stakeholder Review"* status has been removed accordingly.
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email General Page 7	The acronyms and abbreviations for National Departments should be amended to reflect name changes following the appointment of the new Cabinet. All National Departments and acronyms listed within this specialist study must reflect the current names of National Departments.	**Response from the CSIR**: Since this SEA was commissioned in 2017 and the bulk of the reporting and specialist assessments were completed in 2018 and released for comment in April 2019, prior to the announcement of the new Cabinet in May 2019, it is not possible to amend the names of the National Departments and acronyms in all chapters of the SEA Report. However, the validity of this comment is noted, and as a result a list of the

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
		Line 2	Include the abbreviation for EIA in the list of acronyms and abbreviations.	previous Department names referred to in the SEA Report, and the corresponding new names are captured in a table at the beginning of the SEA Report. **Response from the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) Integrating Author**: The abbreviation for the term "EIA" has been included in the list of acronyms at the beginning of the Wetlands and Rivers Assessment (Appendix C.1.7 of the Gas Pipeline SEA Report).
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email General Page 8 Lines 10 - 42	Correct grammar: ▪ Line 10: "gas **pipeline** servitudes…" ▪ Line 12: "was commission**ed**…" ▪ Line 33: "dependent ~~of~~ **on** wetland and river systems…" ▪ Line 42: replace "metrices" with "matrices" Replace "defendable" with "defensible" throughout the specialist study	Noted with thanks. The corrections have been carried out in the relevant sections.
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email General Throughout the report	Correct grammar and spelling.	Any additional errors found have been corrected.
Siphokazi Ncume	City of Johannesburg, Environment and Infrastructure Services Department	27 June 2019 General	Upon review of the studies the Department has noted the following: ▪ Existing drivers: Pressure areas on Aquatic ecosystems: o 81% of the rivers are perennial rivers o 62% of the corridor is in a natural state with a further 2% degraded o Conservation area = 2% (Cradle of Human Kind World Heritage Site) ▪ Mitigation measures on table 8 (Wetlands and River Specialist report). ▪ Maps from page 43 to 46 on the Wetlands	Noted, thank you.

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
			and Rivers Specialist Report have been noted. ▪ Preliminary route determination map has been included.	

2.20. Biodiversity and Ecological Impacts (Aquatic Ecosystems and Species) – Estuaries Chapter

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email General Page 1 Line 3	"*Draft v3 Specialist Assessment Report for Stakeholder Review*". The date of the specialist assessment report should be provided.	**Response from the CSIR**: A versioning table has been added at the beginning the relevant Specialist Assessment Chapters included in Appendix C of the Gas Pipeline SEA Report to note the dates of the chapters. A single versioning table has been included upfront of the Integrated Biodiversity Assessment chapter (Appendix C.1 of the Gas Pipeline SEA Report) to include relevant dates of the Biodiversity Assessments. The "*Draft v3 Specialist Assessment Report for Stakeholder Review"* status has been removed accordingly.
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email General Page 23 Lines 1 - 46 Table 3 on pg 32	It is noted that the Palmiet, Breë, Duiwenhoks, Goukou and Gourits estuaries, which form part of Phase 1 Gas Pipeline corridor, are considered important, as it support sensitive estuarine habitats such as intertidal saltmarshes. The Duiwenhoks, Goukou and Gourits estuaries which are representative of the Phase 2 corridor are also considered important as they support sensitive estuarine habitats such as intertidal and supra-tidal saltmarsh. It is evident from table 3 on page 32 that these estuaries are rated very high in terms of its sensitivity class.	Noted, thank you.
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email General Pages 53 -	The impact of laying down a pipeline below an estuary may affect proper sediment movement and could result in erosion, or lead to shallowing of areas due to sediment build-up.	**Response from the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) Integrating Author**: Noted, thank you. This is discussed in Section 6.2.6 of the Integrated Biodiversity and Ecology Assessment for Gas Pipelines (Appendix C.1 of the Gas Pipeline SEA Report), "Key impacts 9: Altered estuarine physical and sediment dynamics", as well as Section 5.2.2 of the Estuaries Assessment

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
		54 Section 8.2		(Appendix C.1.6 of the Gas Pipeline SEA Report).

2.21. Biodiversity and Ecological Impacts (Terrestrial Ecosystems and Species) – Fynbos Biome Chapter

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Page Range	Line/s	Reviewer Comment	Response
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email	Page 1	Line 3	"*Draft v3 Specialist Assessment Report for Stakeholder Review*". The date of the specialist assessment report should be provided.	**Response from the CSIR**: A versioning table has been added at the beginning the relevant Specialist Assessment Chapters included in Appendix C of the Gas Pipeline SEA Report to note the dates of the chapters. A single versioning table has been included upfront of the Integrated Biodiversity Assessment chapter (Appendix C.1 of the Gas Pipeline SEA Report) to include relevant dates of the Biodiversity Assessments. The "*Draft v3 Specialist Assessment Report for Stakeholder Review"* status has been removed accordingly.
			Page 7	Line 46	Correct grammar: "and the use of treatments to ~~simulate~~ **stimulate**"	This has been corrected.
			Page 8	Line 12	Correct grammar: "These features make it ~~is~~ unlikely that the final…"	This has been corrected.
			Page 10	Lines 32 - 33	Correct grammar: "In some cases it is evident that ~~plant~~ threatened plant"	This has been corrected.
			Page 11	Line 1 Table 1	Regarding the Western Cape Biodiversity Spatial Plan datasets: It is unclear what is meant with "*The handbook includes with definitions of all the categories and the land-use constraints*".	**Response from the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) Integrating Author**: Table 1 of the Fynbos Biome Biodiversity Assessment for Gas Pipeline (Appendix C.1.1 of the Gas Pipeline SEA Report) has been amended to be more clear: "The handbook includes definitions of CBA and ESA categories with associated land-use constraints and management recommendations".
			Page 12	Lines 10 -11	Insert: "the most recent provincial 10 conservation planning **documents** supplemented with…"	This has been added.
			Page 12	Line 18	Correct grammar: "~~special~~ **spatial** resolutions"	This has been corrected.
			Page 17	Lines 20 - 31	Correct grammar: line 20: "Albany ~~Ticket~~ **Thicket** Biomes" line 30: "~~sour-westerly~~ **south-westerly**	These have been corrected.

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Page Range	Line/s	Reviewer Comment	Response
					winds" line 31: "when warm **air** drains from the interior prior to the passage of..."	
			Page 18	Line 5 Figure 1	Correct grammar: "The ecology of these major **vegetation** types differs as well."	This has been added.
			Page 19	Lines 31 - 52	Correct grammar: ▪ line 31: "treatments to ~~simulate~~ **stimulate**..." ▪ line 37: "an area with ~~more~~ higher and more reliable rainfall." ▪ lines 46 - 47: "... after a disturbance creates ~~and~~ **an** opening. These initial or pioneer species will then create ~~and~~ **an** environment which can be colonised..." ▪ line 52: "why Fynbos lacks a **typical** pioneer..."	These have been corrected/added.
			Page 25	Line 16	The acronym "WCSBP" assuming "West Coast Spatial Biodiversity Plan" must be correct to read "WCBSP" (Western Cape Biodiversity Spatial Plan).	This has been corrected.
			Page 48	Line 4	Correct grammar: "values such **as** threatened ecosystems or species"	This has been corrected.
			Page 48	Line 13	Correct grammar: "through **which** the pipeline is being routed"	This has been corrected.
			Page 56	Line 19	Correct grammar: "especially when traversing ~~across~~ steep slopes..."	This has been corrected.
			Page 64	Lines 18 - 19	Correct grammar: "... at a high, strategic level, the three key impacts ~~describes~~ **described** in section 5..."	This has been corrected.
			Page 64	Lines 23 - 24	Correct grammar: "this areas" to read as "these areas"	This has been corrected.
			Page 67	Lines 41 - 53	Where it is impossible to avoid very high or high sensitivity areas, Critical Biodiversity Areas and/or buffers, biodiversity offsets may be required.	**Response from the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) Integrating Author**: Recommendations on how to implement biodiversity offsets (after being established as being the only last resort option, i.e. a sensitive area cannot

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Page Range	Line/s	Reviewer Comment	Response
					Further information pertaining to the strategic overview of how biodiversity offsets will be applied should be included in Section 7 (Best Practice Guidelines and Monitoring Requirements) of the specialist report.	by any other means be avoided or mitigated/managed to acceptable levels) was added in Section 8.1 under "Best practice guidelines and monitoring requirements" of the Integrated Biodiversity and Ecology Assessment Chapter for Gas Pipelines (Appendix C.1 of the Gas Pipeline SEA Report).
			Various	Figures 5, 6, 7, 21 and various	The Phase 2 Corridor Area (Mossel Bay to Coega) contains numerous Critical Biodiversity Areas and Ecological Support Areas. It is also affected by the National Protected Areas Expansion Strategy (2010) and Protected Areas. Taking the sensitivity of the area and vegetation type into account, the significance of the impacts at a site-specific level will remain unknown, which represents a fatal flaw in the assessment approach. It is important to note that should the Norms/Standards/Protocols be applied, the impacts and significance thereof must be known, beforehand.	Response from the CSIR: This comment is noted. Kindly refer to the responses provided above in Section 2.10 of this chapter (contained in Appendix A.7.10 of the Gas Pipeline SEA Report) that deal with the streamlined approach of the project specific phase, following this SEA. These responses explain that based on the comments received from stakeholders and based on discussion with authorities, the option to allow exemption from an Environmental Authorisation for gas pipeline development within the corridors, via implementation of Standards, has not been adopted. Instead, a Basic Assessment Process will be undertaken for gas pipeline development within the corridors via compliance with the EIA Regulations and a Generic Environmental Management Programme (EMPr) for Gas Pipelines that has been compiled as part of this process. Therefore, the impacts of the gas pipeline development will be assessed and known on a project specific scale. In addition, the Generic EMPr includes the relevant management actions provided by specialists during the SEA.

2.22. Biodiversity and Ecological Impacts (Terrestrial Ecosystems and Species) – Nama Karoo, Succulent Karoo and Desert Biomes Chapter

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Page 1 Line 3	"*Draft v3 Specialist Assessment Report for Stakeholder Review*". The date of the specialist assessment report should be provided.	Response from the CSIR: A versioning table has been added at the beginning the relevant Specialist Assessment Chapters included in Appendix C of the Gas Pipeline SEA Report to note the dates of the chapters. A single versioning table has been included upfront of the Integrated Biodiversity Assessment chapter (Appendix C.1 of the SEA Report) to include relevant dates of the Biodiversity Assessments. The "*Draft v3 Specialist Assessment Report for Stakeholder Review"* status has been removed accordingly.

2.23. Biodiversity and Ecological Impacts (Terrestrial Ecosystems and Species) – Albany Thicket Biome Chapter

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Page Range	Line/s	Reviewer Comment	Response
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email	Page 1	Line 3	"*Draft v3 Specialist Assessment Report for Stakeholder Review*". The date of the specialist assessment report should be provided.	**Response from the CSIR**: A versioning table has been added at the beginning the relevant Specialist Assessment Chapters included in Appendix C of the Gas Pipeline SEA Report to note the dates of the chapters. A single versioning table has been included upfront of the Integrated Biodiversity Assessment chapter (Appendix C.1 of the Gas Pipeline SEA Report) to include relevant dates of the Biodiversity Assessments. The "*Draft v3 Specialist Assessment Report for Stakeholder Review"* status has been removed accordingly.
			Page 6	Line 34	Correct grammar: "it provide**s** resources to support…"	This has been corrected.
			Page 7	Line 19	Correct grammar: "for this to hold across all gas **pipeline** phases…"	This has been corrected.
			Page 11	Line 19	Correct grammar: "The findings **of** a brief field work exercise ~~is~~ **are** captured…"	This has been corrected.
			Page 15	Line 13	Correct grammar: "it provides resource**s** to support…"	This has been corrected.
			Page 16	Line 25	Correct grammar: "biodiversity classification for gas **pipeline** phases 1 and part of 2…"	This has been corrected.
			Page 21	Line 7	Correct grammar: "this gas **pipeline** phase falls within the Western Cape…"	This has been corrected.
			Page 22	Line 9	Correct grammar: "as well as a number **of** critically endangered vegetation types."	This has been corrected.
			Page 25	Line 6	Change heading to read "Environmental suitability of gas **pipeline** corridors"	This has been corrected.
			Page 25	Line 15	Correct grammar: "Percentage of total land area for each gas **pipeline** phase…"	This has been corrected.
			Page 31	Line 7 Table 16	Correct grammar: "increase**d** risk of spread of alien invasive plants"	**Response from the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) Integrating Author**: This has been corrected throughout the Albany Thicket Biome Biodiversity Assessment for Gas Pipeline (Appendix C.1.5 of the Gas Pipeline SEA Report).
			Page 40	Line 10	Correct grammar: "the National vegetation **map's** depiction…"	This has been corrected.
			Page 26	Line 12 Figure 12 and	According the sensitivity maps, the Gas Pipeline Phase 1 is highly diverse with at least four distinct vegetation biomes forming a mosaic, with Albany Thicket mostly in	**Response from the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) Integrating Author**: Noted. The strategic suitability analysis

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Page Range	Line/s	Reviewer Comment	Response
				Table 12	river valleys. Gas Pipeline Phase 2 is rich in high value biodiversity areas as can be seen from the large number of Protected Areas and CBAs. Both Phases 1 and 2 dominate the percentage of sensitivity classes within the thicket biome, and also exceed that of Phase 7 and the inland phase. According to Table 12, all the gas pipeline phases that fall within the Albany Thicket Biome have relatively low suitability scores/ratings, with Gas Phase 1 the highest with 4.8 out of 10, Gas Phase 2 the lowest with 3.7 out of 10. None of the phases have a rating/score of greater than 5.5 which is considered good.	indicates that, from the perspective of the environmental sensitivity of the **Albany Thicket biome** (i.e. only those corridors that fall within the biome), gas pipeline phases 1 and inland may be relatively more suitable than phases 7 and 2. However, it is important to reiterate that this is only from the perspective of the Albany Thicket biome, and that at the end of the SEA Process, each sensitivity rating based on the specialist assessments and sensitivity analysis were amalgamated in order to have a combined layer per sensitivity level (i.e.. very high, high, medium and low). This enabled the Pinch Point Analysis and identification of the final gas pipeline corridors. Therefore, the findings of all specialist studies have been considered in the identification of the final corridors. Furthermore, it is important to note that as part of the SEA Process, there was no intention to compare various phases in order to determine the most suitable phase. At the end of the gazetting phase, all corridors that have been assessed in the SEA Process will be gazetted, and the potential project developers would need to identify the most suitable route within the gazetted corridors.

2.24. Biodiversity and Ecological Impacts (Terrestrial Ecosystems and Species) – Savanna and Grassland Biomes Chapter

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
Sinethemba Madondo	Gauteng DARD, Environmental Policy, Planning & Coordination	19 June 2019, Email Page 16 Table 2	Under the row titled 'Critical Biodiversity Areas' there is reference to the provincial datasets. Which provincial GP dataset is being referred to? The CBA for Gauteng is referred to as the C-PLAN and the current version being used was updated in 2011 and not 2014.	**Response from the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) Integrating Author**: The date of the Gauteng C-Plan has been corrected to 2011 in the Savanna and Grassland Biome Biodiversity Assessment for the Gas Pipeline SEA (Appendix C.1.2 of the Gas Pipeline SEA Report). It is noted that the official date of the C-Plan is dated 2011, however SANBI undertook a review of the C-Plan and updated the report in 2014, hence 2014 was also noted in the report.
Sinethemba Madondo	Gauteng DARD, Environmental Policy, Planning & Coordination	19 June 2019, Email	Under the row 'Protected Areas Expansion', the Gauteng Protected Areas Expansion is not considered. This dataset is available from GDARD and it highly recommended that it be considered	**Response from the Integrated Biodiversity and Ecology Assessment (Terrestrial and Aquatic Ecosystems, and Species) Integrating Author**: Correction: the 2016 National Protected Areas Expansion Strategy data was used which is a collation of all relevant provincial data. As such the Gauteng Protected Areas for expansion

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
		Pages 16 - 17 Table 2	as it is critical in identifying potential conservation areas, especially due to the fact that the province is already dealing with rapid biodiversity loss due to development.	has been included and considered.

2.25. Settlement Planning, Disaster Management and related Social Impacts Chapter

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
Angila Joubert	Bergrivier Municipality	6 June 2019, Email Page 59 Line 28	Will the outline for this process initiation plan be communicated to the affected municipalities well in advance as this can be a very sensitive and prolonged process?	**Response from the Settlement Planning, Disaster Management and related Social Impacts Integrating Author**: The recommendation that has been queried on is noted below, as extracted from the Settlement Planning, Disaster Management and related Social Impacts Assessment, which is included in Appendix C.3 of the Gas Pipeline SEA Report: ▪ *Timeous negotiations and detailed studies must be undertaken to minimise negative impact in vulnerable communities especially in traditional authority areas*. Once a specific gas pipeline project has been identified (i.e. based on the demand, a viable business case, a confirmed source of gas and a guaranteed off-taker), a Basic Assessment Process will be undertaken for such development within the corridors, in compliance with the Decision-Making Outputs of the Gas Pipeline SEA (i.e. Generic Environmental Management Programme (EMPr), Minimum Information Requirements, and Protocols). The Basic Assessment Process will also include a comprehensive Public Participation Process (as per the Environmental Impact Assessment (EIA) Regulations). The relevant municipalities will also be made aware of the gas pipeline route in this case and will be consulted with during the negotiations phase and as part of the Basic Assessment Process. In addition, the Settlement Planning, Disaster Management and related Social Impacts Assessment (Appendix C.3 of the Gas Pipeline SEA Report) notes that a Monitoring Forum should be developed to monitor the implementation of the recommended mitigation measures. The forum should include key stakeholders, including representatives from the relevant local municipalities, farmers, local farming unions, local community representatives etc. Hence, the municipalities will

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
				also be involved in the construction phase. These relevant recommendations have been included in the Generic EMPr.
Margaret Murcott	City of Cape Town, Environmental Management Department, Spatial Planning & Environment Directorate	14 June 2019, Email Page 12 Lines 15 - 16	Will be important to ensure that the location data on servitudes, locations of gas pipeline is open and is contained on a stable hosting platform and through a stable institutional framework to avoid loss of knowledge that occurs with political changes and ensure that the location of the infrastructure is not lost.	**Response from the CSIR**: The Competent Authority (in terms of Environmental Authorisation) will have access to the final approved gas pipeline route and associated servitude. Furthermore, when the project developer needs to apply for re-zoning and servitude registration, the location of the final approved gas pipeline route and associated servitude will be provided to the applicable Municipality. Therefore, the Municipality will have access to this data. In addition, the final approved gas pipeline route and associated servitude will also be housed by the National Energy Regulator of South Africa. It is unlikely that a dedicated open platform will be maintained to host the final approved gas pipeline routes and associated servitudes within the corridors, as project developers would also prefer to maintain some level of discretion with regards to the final route and servitude for security purposes. With this being said, all relevant authorities will be provided with the details of the final approved gas pipeline route and associated servitude. The project developer will also maintain the location files.
Margaret Murcott	City of Cape Town, Environmental Management Department, Spatial Planning & Environment Directorate	14 June 2019, Email Page 17 Line 25	Interface points with transmission lines will be very important to plan in an integrated and strategic way. We will need the precise location of the land site alternatives in order to retain servitudes. There are development pressures in Atlantis with a priority housing area planned to the North of the Industrial area, and housing planned to the South. It will be useful to have the Cadastral layer for the planned Southern alternatives to assist planning. Also note an EIA process is ongoing for a large resort development around Silverstroom Strand. Suggest to contact Mr Morne Theron: Morne.Theron@capetown.gov.za	**Response from the CSIR**: As noted in the Gas Pipeline SEA Report, only natural gas high pressure **transmission** pipelines have been considered in this SEA. Transmission pipelines are referred to as the main trunk line. Smaller distribution pipelines (i.e. branch lines to industrial areas and reticulation offtake points) and reticulation pipelines (i.e. to homes and small industry) have not been considered in this SEA. It is understood that once there is a need for a gas transmission pipeline and all pre-requisites are met (i.e., there is a demand, source of gas and off-taker), the pipeline would be routed from the source to an anchor customer (i.e. a large baseload customer), which is generally a large customer that uses gas (such as large industrial and energy sectors, such as a Gas to Power Station). From this point, it will go to the heavy industrial users, light industrial users, commercial users and then into reticulation, and even applications such as transport (e.g. Compressed Natural Gas (CNG) and LNG in vehicles). If the distribution lines are to be constructed from the main transmission line, Pressure Reduction Stations (PPS) will need to be constructed in order to reduce pressure from the main transmission line. This will be subject to a separate Environmental Authorisation Process, as it is not covered in this SEA.

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
				It is not possible to identify the locations of any interface points at this stage. Such locations, including proposed mixed-use development on Farm 1, Groote Springfontein, will be identified once final pipeline route has been identified and assessed as part of the project specific Basic Assessment phase. Therefore, precise locations and cadastral layers of the pipeline planning within the Phase 1 corridor do not exist at this stage of the SEA.
Margaret Murcott	City of Cape Town, Environmental Management Department, Spatial Planning & Environment Directorate	14 June 2019, Email Page 40 Lines 9 - 10	As some projects in the phase 1 area may be imminent it is important to know the width of servitudes needed and buffer areas in order to reserve options for transmission lines and connection points for Atlantis in particular. In order to integrate with City planning the following processes should be noted: ▪ The City is currently undertaking District Plans aiming for adoption 2021 and the next MSDF review will begin in 2020 aiming for adoption in 2022. ▪ Amendments to the Municipal Planning By Law will also need to be considered to ensure protection of servitudes. ▪ We specifically need the layout and options for alignment of the servitudes in GIS format or maps on 1:10 000 scale for further information.	Response from the CSIR: As noted in the Gas Pipeline SEA Report, during the construction phase a 30 – 50 m construction right-of-way will be required, and the operational phase, this affected area will be reduced to a 10 m wide servitude. Buffer areas are specified in Part 3 of the Gas Pipeline SEA Report, specifically Table 2 (with regards to Environmental Wall to Wall Constraints) and Table 3 (with regards to Engineering Wall to Wall Constraints). Other buffer areas are noted in the Specialist Assessment chapters, which are included in Appendix C of the Gas Pipeline SEA Report. An example of a buffer would be that the gas pipeline would need to be at least 5 – 10 km away from electricity transmission powerlines (depending on its voltage). At this SEA level, the exact routes of the gas pipeline or potential alternative routes are not known and therefore GIS files and maps confirming these cannot be provided. The route of the gas pipeline will only be finalised during the project specific stage. Therefore, it is not possible, at this stage to reserve options for the gas transmission pipeline and connection points to Atlantis. The City of Cape Town Municipal Spatial Development Framework (MSDF) (approved on 25 April 2018) has been considered in this Gas Pipeline SEA. Shapefiles of the MSDF were provided to the SEA Project Team by the City of Cape Town Transport and Urban Development Authority. Relevant updated District Plans, MSDFs and Bylaws would need to be considered at the project specific level during the Basic Assessment Process.
Margaret Murcott	City of Cape Town, Environmental Management Department, Spatial Planning & Environment Directorate	14 June 2019, Email Page 42 Lines 7 - 9	Are good practices available with regard to route design of connections? How will illegal connections be prevented/mitigated?	Response from iGas: The majority of the infrastructure is not visible as transmission pipelines are buried underground to minimise such impacts and to prevent easy tampering with the pipeline, except for when they are routed aboveground at the pigging and compressor stations. The developer would then ensure that vandalism is prevented by installing safety and feedback related systems which shall detect any unauthorised activities, especially for those sections that are less monitored. Pipeline markers will be installed aboveground to provide warning or alert people of the pipeline location, however any individual with intent could potentially cause damage. For this reason, block valves will therefore be placed 30 km apart along the route to isolate the section of the pipeline which has been damaged and to

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
				protect the other sections in terms of overall loss of the product.
Margaret Murcott	City of Cape Town, Environmental Management Department, Spatial Planning & Environment Directorate	14 June 2019, Email Page 60	Please engage Greg Pillay on Disaster Management aspects Greg.Pillay@capetown.gov.za	**Response from the Settlement Planning, Disaster Management and related Social Impacts Integrating Author**: Engagement with the relevant stakeholders and authorities will occur, once the final routing has been determined and the roll-out of the project occurs (which will include a Basic Assessment Process prior to the commencement of construction). In terms of best practice measures included in the Settlement Planning, Disaster Management and related Social Impacts Assessment Chapter (Appendix C.3 of the Gas Pipeline SEA Report), the following support mechanisms have been included to ensure that appropriate engagement is undertaken with the affected municipalities to ensure that Disaster Management is in place: ▪ Municipalities which may be affected by the final routing of the gas transmission pipelines must be identified. The Developer must consult with these municipalities on the roll-out of the gas transmission pipeline and what support would be required, should a disaster occur. ▪ The Disaster Management capacity of affected municipalities needs to be investigated in detail, and a comparative matrix should be established as a baseline ("status quo") situation, once the final routing has been identified.
Margaret Murcott	City of Cape Town, Environmental Management Department, Spatial Planning & Environment Directorate	14 June 2019, Email Page 107 Table E6	Please note WESCAPE is no longer considered part of the future plans for Cape Town MSDF 2018	**Response from the Settlement Planning, Disaster Management and related Social Impacts Integrating Author**: This comment is noted, however at the time of undertaking the review of the Provincial Spatial Development Frameworks (SDFs) in the affected provinces in order to list planned infrastructure projects, the 2012 City of Cape Town Municipal Spatial Development Framework (MSDF) was used. An explanatory note has been included in Appendix E.6 of this Chapter (Appendix C.3 of the Gas Pipeline SEA Report), noting that the WESCAPE Mixed Land Use Development is no longer considered part of the future plans for Cape Town in the 2018 MSDF. As noted above, relevant updated District Plans, MSDFs and Bylaws would in any case need to be considered at the project specific level during the Basic Assessment Process.
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Page 1 Line 3	"*Draft v3 Specialist Assessment Report for Stakeholder Review*". The date of the specialist assessment report should be provided.	**Response from the CSIR**: A versioning table has been added at the beginning the relevant Specialist Assessment Chapters included in Appendix C of the Gas Pipeline SEA Report to note the dates of the chapters. A single versioning table has been included upfront of the Integrated Biodiversity Assessment chapter (Appendix C.1 of the Gas Pipeline SEA Report) to include relevant dates of the Biodiversity Assessments. The "*Draft v3 Specialist Assessment Report for Stakeholder Review"* status has been removed accordingly.

2.26. Recommendations for the EMPr

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
Rhett Smart	CapeNature, Scientific Services	10 June 2019, Email General	CapeNature recommends that a Generic Environmental Management Programme (EMPr) is compiled for the construction phase for the gas pipelines as was compiled for the EGI SEA. Implementation of appropriate mitigation measures can significantly reduce the impacts related to this activity. The EMPr must include measures related to each of the different methodologies for laying of the pipeline, which would include trenching, pipe-jacking and horizontal directional drilling. The selection of the most appropriate methodology must also be included and should take both engineering and environmental considerations into account.	**Response from the CSIR**: A Generic Environmental Management Programme (EMPr) for Gas Pipelines has been compiled as part of the Gas Pipeline SEA in order to manage generic impacts relating to gas pipeline development within the assessed corridors (once they are gazetted). The Generic EMPr for gas pipeline development does include measures related to different methodologies for laying of the gas pipeline, i.e. trenching, pipe-jacking and horizontal directional drilling (HDD).
Rhett Smart	CapeNature, Scientific Services	10 June 2019, Email General	Rehabilitation/restoration must be a key consideration in the EMPr, where the objective must be that the pipeline servitude must be returned to the same condition or as close to this as possible prior to the laying of the pipeline. The action required along the spectrum of rehabilitation to restoration would depend on the condition of the site prior to laying the pipeline, where restoration would be necessary for intact natural vegetation whereas rehabilitation to a cover crop would be adequate on cultivated lands. It is recommended that specialists with expertise in restoration ecology assist with this section of the EMPr and it should be separated into the different biomes in the same manner as the specialist reports currently under review. In this regard we wish to query if the very high sensitivity rating for Albany Thicket is again more relevant for power lines rather than gas pipelines.	**Response from the CSIR**: Rehabilitation and restoration are key considerations of the Generic Environmental Management Programme (EMPr) for Gas Pipelines that has been compiled as part of the Gas Pipeline SEA. These recommendations are noted and have been considered in the Generic EMPr, which includes appropriate management actions to ensure that the affected areas following the completion of construction are rehabilitated or restored to a level similar to that achieved during pre-construction. All specialists appointed as part of the Gas Pipeline SEA provided input to the EMPr. With regards to the sensitivity rating for Albany Thicket, note that as part of the Negative Mapping, the impact of the gas pipeline on Albany Thicket was rated with a Very High sensitivity (from an environmental sensitivity perspective). The sensitivity analysis was considered in more detail in the Terrestrial Ecology and Species Biodiversity Assessment for the Albany Thicket Biome (Appendix C.1.5 of the SEA Report). The Albany Thicket Biome only intersects with the Gas Pipeline Corridors. From a gas pipeline perspective, construction and maintenance activities may pose a risk of habitat destruction and degradation, establishment and spread of invasive vegetation, and increased poaching of rare and endangered fauna and flora, as discussed in greater detail in the Terrestrial Ecology and Species Biodiversity Assessment for the Albany Thicket Biome (Appendix C.1.5

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
				of the SEA Report). During the construction phase, a 30 – 50 m wide servitude will be cleared for the construction right-of-way, which will be reduced to a 10 m wide servitude that will be needed for the operational phase. The rest of the disturbed area will be rehabilitated but the 10 m wide servitude will need to remain clear of deep rooted vegetation (such as trees and shrubs that have root systems deeper than a metre, as the top of the pipeline will be placed about 1 – 2 m from the surface). Therefore, the gas pipeline could have potential impacts on Albany Thicket. In terms of engineering constraints, the impact that Albany Thicket would have on the gas pipeline in terms of routing of the infrastructure and actual construction etc. was rated with a Very High sensitivity in the Final Pinch Point Analysis. The reason for this is the deep rooted system of the thicket, that would increase the cost of the gas pipeline to either avoid the thicket or implement an engineering solution (such as Horizontal Directional Drilling to route the gas pipeline below the root system).
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Integrated Biodiversity Assessment Chapter – Gas Pipeline Page 145 Lines 13 - 14	Weld failures could result in gas escaping through gas leaks and airborne plumes could be dangerous when accidentally ignited. Would these impacts be addressed in the Environmental Management Programme (EMPr)?	**Response from the CSIR and iGas**: As noted in Part 2 of the SEA Report, the pipeline will be an all-welded system, so there is no possibility of leaking from flanges or failed gaskets. Nevertheless, recommendations for the management of potential leaks and common incidents associated with the operation of the transmission gas pipeline such as weld failures, ruptures, vandalism, etc., and ensuring ongoing maintenance of the pipeline have been captured in the Generic Environmental Management Programme (EMPr).
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Integrated Biodiversity Assessment Chapter – Gas Pipeline	Pipelines for the transmission of gas require a high level of maintenance and safety. The pipelines must be required to have a maintenance plan with a proper maintenance budget, including the cost of responding to emergency incidents. State Departments and organs of State have a poor record of infrastructure maintenance. Pipeline operators and owners must be held accountable to comply	**Response from the CSIR**: Recommendations for the ensuring ongoing maintenance of the pipeline have been captured in the Generic Environmental Management Programme (EMPr). **Response from iGas**: Transmission pipelines are subjected to maintenance operations called “pigging” which is implemented every 5 years. This operation ensures that the pipeline is cleaned effectively and it also mitigates risks associated with voluntarily leaks or ruptures by inspecting the inside of the pipeline. The product inside should also

Stakeholder Reviewer Name	Organisation	Date and Method of Submission and Specific Chapter	Reviewer Comment	Response
		Page 147 Lines 15 - 21	with these maintenance plans and emergency leaks or incidents must be reported in terms of the required legal protocols. These requirements must be clearly stipulated in the EMPr or Norms/Standards/Protocols.	meet certain specifications and therefore should be regulated. Pipeline developers will always ensure that maintenance plans are carried out to ensure that the business is sustainable and they are compliant with the requirement of the regulators.
Gerhard Gerber	Western Cape DEADP, Development Facilitation	24 June 2019, Email Integrated Biodiversity Assessment Chapter – Gas Pipeline General	The transportation of gas and associated infrastructure may cause air pollution within certain parts of the corridor and also poses risks to underground sources of drinking water. These activities (pipeline projects) may threaten their safety and the property values of landowners. The landowners situated in close proximity to pipelines or a compressor station are faced with the persistent risk of accidents, spills or explosions. Will this be addressed in the EMPr or Norms/Standards/Protocols?	Response from the CSIR: Potential leaks, emissions, accidents, spills and explosions are discussed in detail in Part 2 of the SEA Report. Recommendations for the management of potential leaks, accidents, spills and explosions and ensuring ongoing maintenance of the pipeline have been captured in the Generic Environmental Management Programme (EMPr). It is unlikely that the gas pipeline will pose a risk to underground sources of drinking water, as the pipeline will be positioned at a shallow depth below-ground. The impact of the gas pipeline on Strategic Water Source Areas (SWSAs) are discussed in the Integrated Biodiversity Assessment (Appendix C.1 of the Gas Pipeline SEA Report). Response from iGas: The proposed pipelines assessed as part of the SEA are strictly of a transmission capacity (i.e. high pressure pipelines). Furthermore, compressor stations have not been assessed as part of the SEA as these require separate appropriate Environmental Assessments and permitting processes. The design requirements as per the American Standards for Mechanical Engineers (ASME B31.4) will be stringently applied and strict measures have been recommended in the Generic EMPr, especially if the pipeline needs to be routed in proximity to settlements.