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 Electricity Grid Infrastructure Expansion for South Africa

PUBLIC ROADSHOW
MEETING NOTES

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 typical meeting agenda below:

TIME	ACTIVITY/PRESENTATION
17:00 – 17:15	Welcome and Introductions
17:15 – 17:30	Background on the Phased Gas Pipeline Network Corridors
17:30 – 17:45	Introduction to the SEA Process
17:45– 18:15	SEA Process and Proposed Methodology
18:15– 19:00	Discussion, Way Forward and Closing

2. Public Roadshow

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	Rosemall Community Hall: 62 Woltemade Street, George, 6530	17H00 – 19H00

Note that there may be some level of duplication in these notes as they cover 6 meetings were similar concerns or issues may have been raised.

3. Comments and Responses

Meeting #1

Comments or Questions Raised	Responses from SEA Project team
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?	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). 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. The developer who is conducting the seismic testing would have to do the public participation process as part of their EIA application.
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.	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. 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

Comments or Questions Raised	Responses from SEA Project team
	such as refineries. That will be discussed later depending on the business case, and will be based on a separate assessment process.
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. Will there be flaring? What impact will the proposed project have on the carbon footprint?	This SEA has started recently and is anticipated to be completed around mid-2018. 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. 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.
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?	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.
How flexible are the phases which have been identified? Can the phases start in a different sequence based on demand?	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.
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? 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. 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.	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.
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 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

Comments or Questions Raised	Responses from SEA Project team
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?	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 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.
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).	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.
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.
Are you saying this picture of the maps may change as we go along?	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 the SKA area considered?	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.
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	Note from the CSIR: Comment noted. The Project Team will research companies that have existing EA approvals and will approach them for information.

Comments or Questions Raised	Responses from SEA Project team
their application process.	
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?	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.
I suggest you contact the Endangered Wildlife Trust (EWT) for information and feedback.	The EWT are aware of the project and are on the project Expert Reference Group. The EWT has also provided data that can be used in the sensitivity analysis.
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. From NERSA's perspective, when applicants are submitting an application; they are expected to produce a climate change report.	Those studies would fall under the EIA Process and not necessarily in the SEA. 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.
Is there any timeframe set aside for the SEA process to occur?	We are tentatively planning to finalise the SEA process by mid-2018, and the gazetting by the end of 2018.
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. 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.	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. 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.
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?	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. 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,

Comments or Questions Raised	Responses from SEA Project team
	Standards and Assessment Protocols).
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).	Noted. In addition, as part of the sensitivity analysis, the human settlements will be considered, as well as the proximity to gas pipelines.
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? 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? When will the norms or standards be developed?	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. Currently we are using the American ASME B31.8-2016 standard, but each design will be specific to a pipeline. The issue would be compliance and linking it to the objective that needs to be achieved and what is acceptable to South Africans. They will be developed as part of this SEA Process, and is one of the outputs.
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?	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. 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). If we become too prescriptive it becomes difficult to monitor, the goal should be to comply with certain standards and ensure overall compliance. 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. 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.

Comments or Questions Raised	Responses from SEA Project team
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? 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.	It is important to re-iterate that the pipeline will not be built if there is no business case. 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. 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.

Meeting #2

Comments or Questions Raised	Responses from SEA Project team
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

Comments or Questions Raised	Responses from SEA Project team
	handled by the 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

Comments or Questions Raised	Responses from SEA Project team
	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.

Meeting #3

Comments or Questions Raised	Responses from SEA Project team
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.	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. 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. 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.
What is the uncertainty with the Minerals and Petroleum Resources Development Act (MPRDA), and will the gas be exported?	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.
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 assessed). Which process will consider the impacts resulting from the actual sourcing of the gas?	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 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

Comments or Questions Raised	Responses from SEA Project team
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. As an energy regulator, the National Energy Regulator of South Africa (NERSA) does check for compliance and the viability of the source	funded (linked to the International Finance Corporation (IFC)), the funding is generally also conditioned on socio-economic requirements. .
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. We do not recommend that the gas pipeline and EGI are close together, even for short-distances, based on our experience as a regulator.	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. 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. 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. 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. 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.
What was the reason for extending the EGI in the north of KZN, considering how sensitive the area is?	It could be for the reasons of importing and exporting power to neighbouring countries. We are aware that the Mozambican government is currently constructing a road from 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

Comments or Questions Raised	Responses from SEA Project team
	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.
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.	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). SANBI is also finalising their species list, which is important for this SEA.
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.	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. 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.

Meeting #4

Comments or Questions Raised	Responses from SEA Project team
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.	Noted with thanks
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 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.	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 pipeline route.

Comments or Questions Raised	Responses from SEA Project team
	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.
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).	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. 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.
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.	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. 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. 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. It is important to note that consultation during this SEA Process is ongoing and a

Comments or Questions Raised	Responses from SEA Project team
	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 process.
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.	Thank you, your comment is noted and we thank you for presenting this project at other local environmental forum meetings.

Meeting #5

Comments or Questions Raised	Responses from SEA Project team
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.	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. 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.
I support this project, we are aware of the crisis of water, but this project will create	Comment noted. It should be noted that any potential job creation would be during the

Comments or Questions Raised	Responses from SEA Project team
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).	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).
Is this development only happening inland/onshore or is it also happening in the sea/offshore?	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.
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 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?	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 that may occur. 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).
With the pinch point analysis, have you considered environmental offsets because sometimes the cheapest route is selected, which may result in environmental impacts?	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. 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.
In terms of environmental auditing, the developer should make a provision in their budget for rehabilitation and environmental reparation at the decommissioning stage. 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.	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). As part of the licence conditions to operate, an amount is set aside by developers for decommissioning procedures. 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

Comments or Questions Raised	Responses from SEA Project team
	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.

Meeting #6

Queries or Comments Raised	Responses from SEA Project team
What will the carbon footprint be and what restrictions will apply for farmers and other landowners?	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.
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?	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.

Queries or Comments Raised	Responses from SEA Project team
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.	
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). Are you happy with the public representation at this meeting i.e. only 7 people not related to the gas industry? This project could have been advertised on the radio.	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 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.
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.	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.
Have you considered the impact of seismic drilling on the ocean?	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.
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.	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. We are trying to avoid areas of high and very high environmental sensitivity and therefore trying to avoid negative impacts.
What is the project website?	It is https://gasnetwork.csir.co.za/
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?	We are not looking at the base case and costs. The environmental sensitivities and engineering constraints will be rated from low to very high. 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

Queries or Comments Raised	Responses from SEA Project team
	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. 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.
Has market analysis been completed? Is the DTI involved in this project?	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.
In terms of the assessment of environmental sensitivity and constraints, you mentioned impacts on surface water; however will groundwater be looked at?	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. We do have a map on strategic groundwater and surface water source areas that we will consult with during the SEA Process.
You should consult with the water caucus and SA Wetland Society.	Noted
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? 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. 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.	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

Queries or Comments Raised	Responses from SEA Project team
	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. 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. 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.
What will the width of the eventual corridor be?	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.
To what extent can the corridor be used for other infrastructure?	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 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.
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.	Noted and the SEA will not consider aspects about financing the construction of a pipeline now. 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.
From a social perspective, where would skills development be taken into consideration?	This will be considered once the project specific pipeline is being developed.

Queries or Comments Raised	Responses from SEA Project team
We previously did not see government providing any information about actual job creation. Also outdated systems are being used (such as the GDP).	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.
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. 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. 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.
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. You could find the most appropriate corridors but the actual footprint of the pipeline is going to impact the environment detrimentally. 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.	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.
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. The consultation needs to explain what the risks are to the people that live in close proximity to the pipeline and pigging station.	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. 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 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.

Queries or Comments Raised	Responses from SEA Project team
	The example of the Rompco pipeline was provided i.e. that it did not have a leak for a certain number of years.
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. 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.	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. We would appreciate everyone's inputs in this process, notifying us if we have missed something.