



REPUBLIC OF SOUTH AFRICA



Oceans Lab – Offshore Oil and Gas Exploration A1 Workstream:

Phased Gas Pipeline Network

EXPERT REFERENCE GROUP MEETING 1

13 September 2017

Neville Ephraim

The lab aspires to determine the extent of South African *offshore* oil and gas reserves through exploration



South Africa should ...

OIL AND GAS LAB VISION

... create an environment that ***promotes exploration*** ...

... in order to ***drill 30 exploration wells*** in the next 10 years ...

... while simultaneously ***maximising the benefits for South Africa***

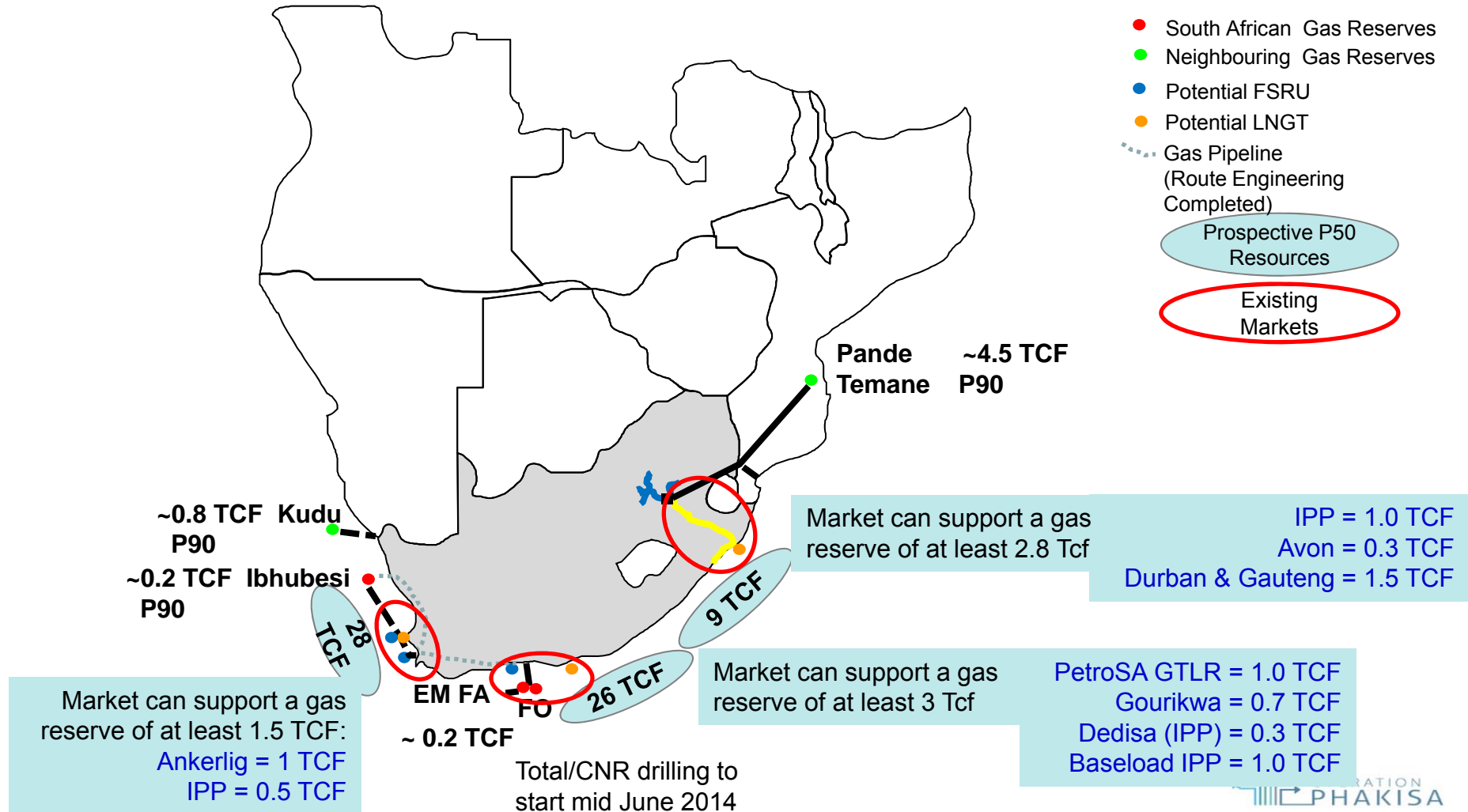
August 2014



State of Gas Exploration, Usage & Planning in South Africa (August 2014)



- South African Gas Reserves
- Neighbouring Gas Reserves
- Potential FSRU
- Potential LNGT
- Gas Pipeline (Route Engineering Completed)
- Prospective P50 Resources
- Existing Markets



Oceans Lab Outcome for A1 Workgroup



Ensure that a State Owned Company (SOC) starts to pre-plan for a concerted, commercial and logical development of gas transmission servitudes within South Africa. iGas is the mandated SOC for gas and gas infrastructure.

The subsequent steps of engineering and completing the relevant business case can only be led by the relevant gas reserve finds with commercial opportunities.

The Phased Gas Pipeline Network is viewed as a key to unlocking offshore gas exploration by creating a path to market for possible offshore gas finds



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Phasing

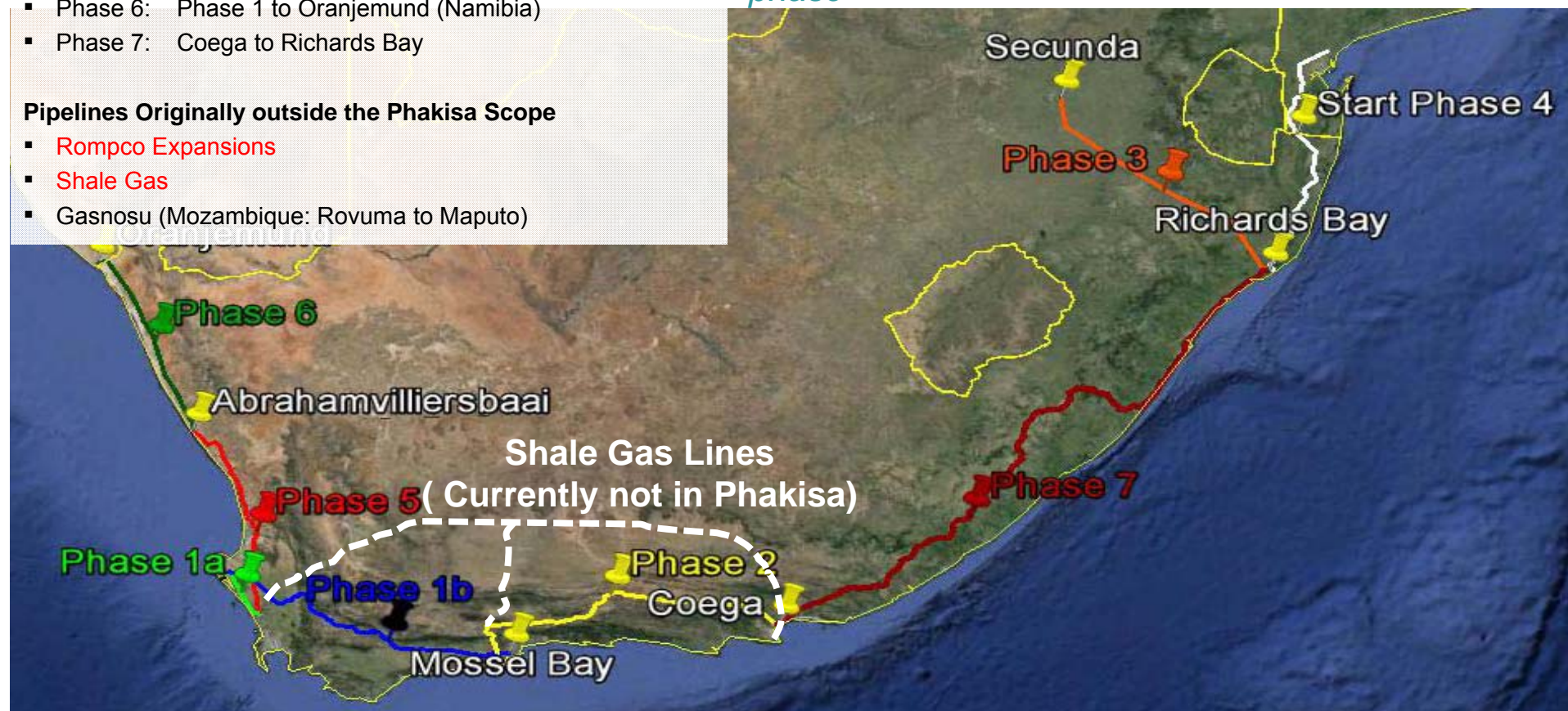
- Phase 1a: Saldanha to Ankerlig
- Phase 1b: Saldanha to Mossel Bay
- Phase 2: Mossel Bay to Coega
- Phase 3: Richards Bay to Secunda
- Phase 4: Mozambique Southern Border to Richards Bay
- Phase 5: Abrahamvilliersbaai to Ankerlig Take-off
- Phase 6: Phase 1 to Oranjemund (Namibia)
- Phase 7: Coega to Richards Bay

Pipelines Originally outside the Phakisa Scope

- Rompco Expansions
- Shale Gas
- Gasnosu (Mozambique: Rovuma to Maputo)

Phakisa A1 Phased Gas Pipeline Network

The Gas Pipeline Network will be developed in 7 Phases *as deemed economically viable* and based on *viable business cases for each phase*



Changing Economic Environment

2014

- Uncertainty around the MPRDA to be addressed by the F1 Workgroup
- \$100 / bbl – \$110 / bbl oil price
- Oil price supported exploration for oil and gas
- Phased Gas Pipeline Network (PGPN) required to take offshore gas to market

2017

- Uncertainty around the MPRDA remains
- \$50 / bbl – \$60 / bbl oil price
- Oil price *may not* encourage *production* for oil and gas, however does not invalidate *advancement of exploration activities*
- PGPN no longer *only* driven by offshore gas discoveries

Other Drivers

- PGPN driven by imported LNG (via the LNG to Power Program)
- Shale Gas developments in the Karoo Region
- Imported Gas from Mozambique

PGPN Alignment with Possible Future Pipelines

PGPN was aimed at offshore development, there has been Alignment with Future Plans

- Phakisa A1 plans and the future pipelines plans for **gas** have been aligned through discussions between CEF (iGas), Transnet and Eskom
- Recognised early in the process that it cannot be developed in isolation
- Needs to consider onshore and regional developments as well
- Hence the inclusion of LNG, Shale Gas and gas from Mozambique

Shale Gas

- Could be a “game changer” for the gas industry development in SA
- If proven the shale gas development will lead to industrial growth, only capped by the delivered gas price
- Shale gas opportunity in the Karoo was excluded from the *original* PGPN – does not support offshore exploration
- Provisions made in the SEA to tie in the Shale Gas sweet spot to the PGPN
- Provisions also made to include the Gauteng corridor, i.e., the Rompco pipeline route

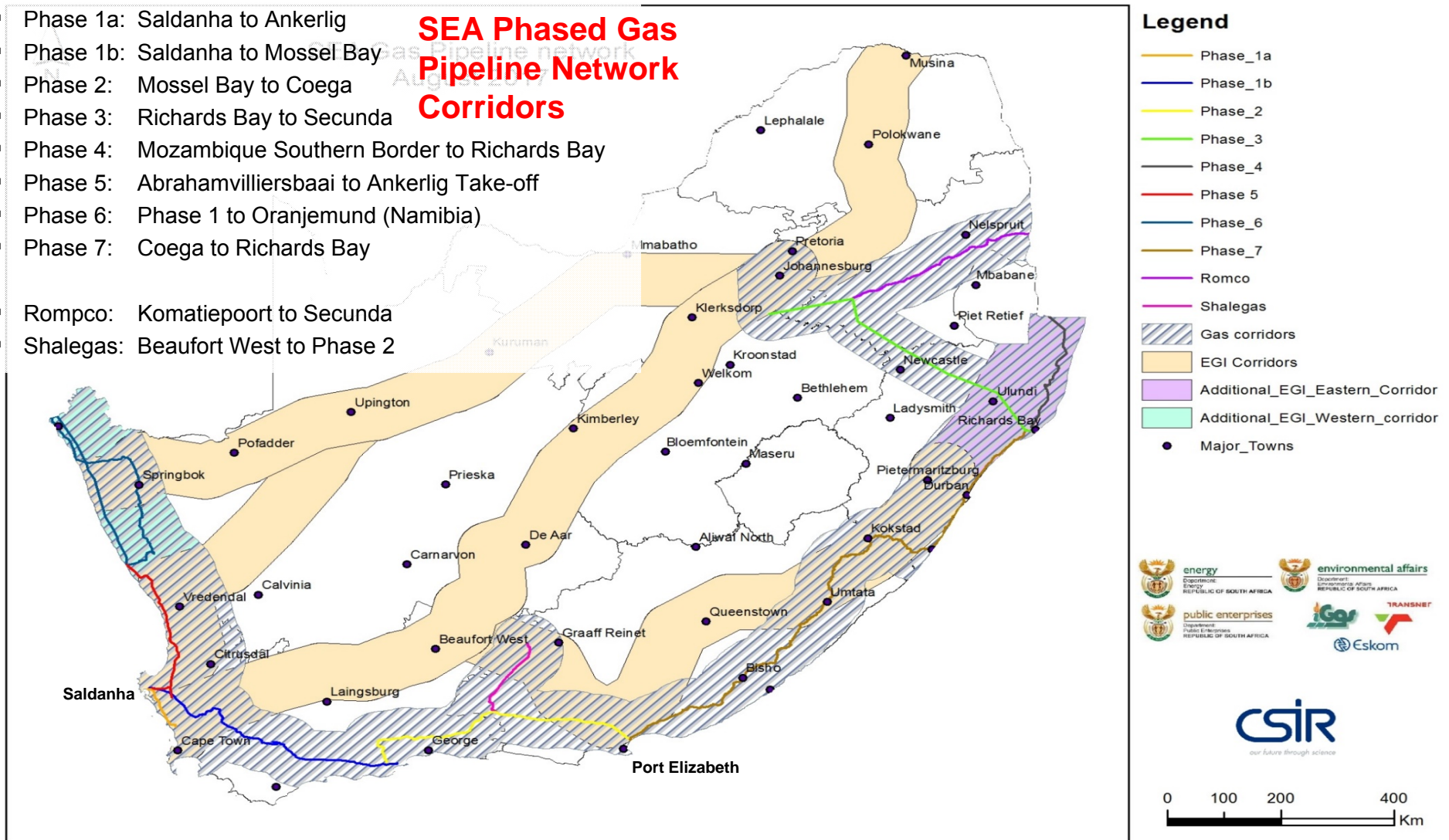
LNG Imports

- The DoE’s IPPO LNG-to-Power procurement program has a potential to unlock further possibilities for the growth of the gas industry in SA
- Project Information Memorandum (PIM) issued in October 2016 identifies Richards Bay and Coega as destinations for initial implementation
- Saldanha will be introduced in a later phase
- PGPN links all of these ports and ties in well with the future plans for pipelines development both in Phakisa A1 and Future Planning

Phasing

- Phase 1a: Saldanha to Ankerlig
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 - Phase 7: Coega to Richards Bay
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- Rompco: Komatipoort to Secunda
 - Shalegas: Beaufort West to Phase 2

SEA Phased Gas Pipeline Network Corridors





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Additional Slides

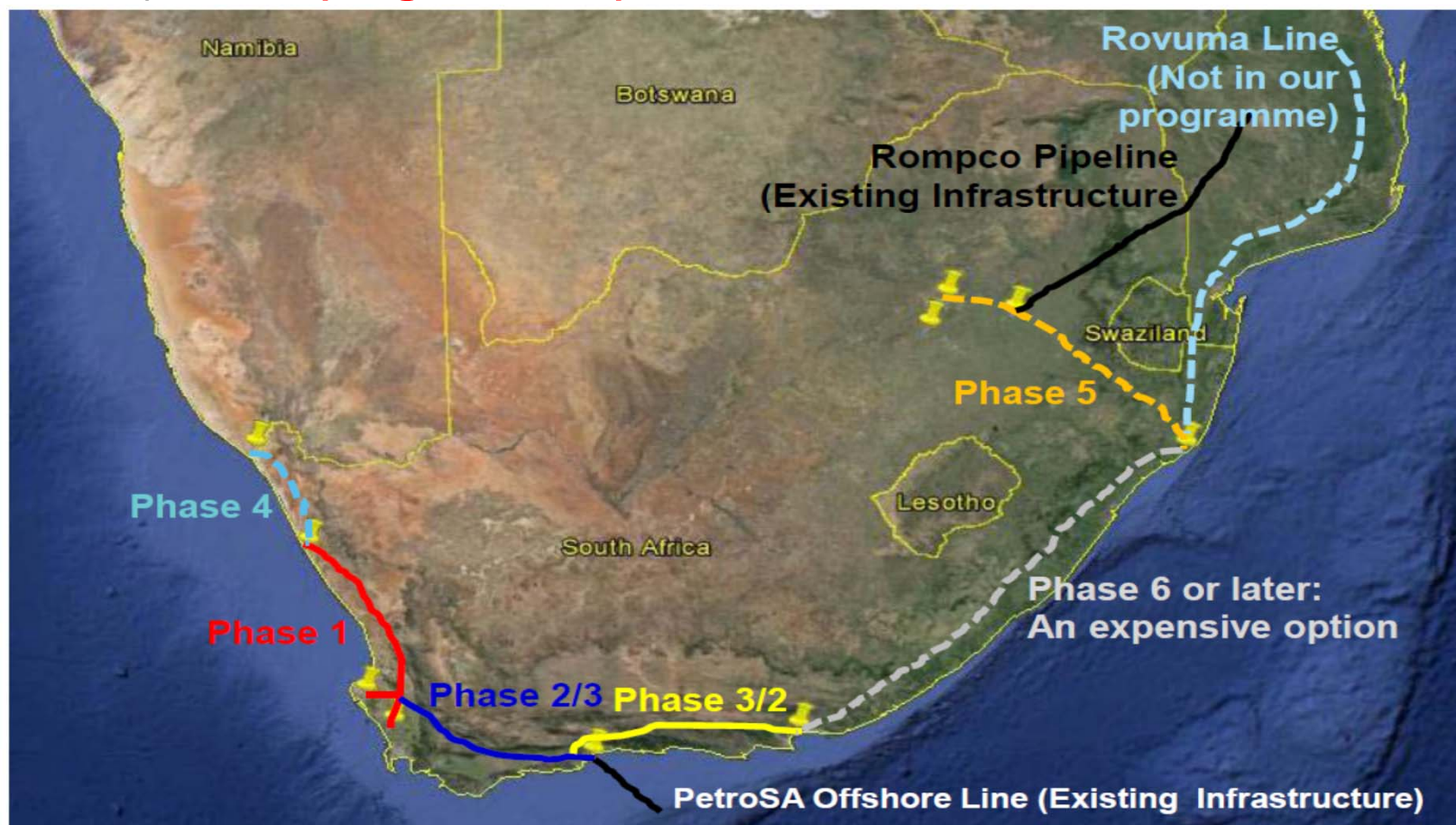
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Initiative – To develop the gas pipeline infrastructure

The Gas Pipeline Network will be developed in 6 Phases *as deemed economically viable* **(August 2014)**



Alignment with the IRP and the IEP

Although PGPN was aimed at offshore development

- Recognised early in the process that it cannot be developed in isolation
- Needs to consider onshore and regional developments as well
- Hence the inclusion of LNG, Shale Gas and gas from Mozambique

Going forward

- Need to consider policy planning, in this case, the IRP and IEP
- Ensure alignment between what we are doing and the direction in which the policy is going

Hence Request

- Engagement with those responsible for updating the IRP and the IEP

For IRP

- To understand the planning related to gas to power in terms of possible locations and timing for implementation

For IEP

- To understand the planning and possible timing related to the introduction / inclusion of gas in the South African Energy mix.
- Ensure that the corridors, once finalised, be included in the IRP, IEP as well as in local government SDFs and other type of provincial/local spatial planning documents with the aim of protecting the corridors from incompatible land uses.