# DEPARTMENT OF ELECTRICITY AND ENERGY

*Invest. Build. Power Up:*

## Unlocking Private Capital for Expanding & Modernising Transmission Infrastructure

*SA Transmission Infrastructure Investment Forum 2025*

**Dr Kgosientsho Ramokgopa**

4 April 2025

JSE

# VISION FOR ENERGY TRANSFORMATION: 2024–2029

Department of Energy & Electricity strategic priorities

**Achieve Universal** Access, Availability, Affordability and Quality;

**Attain Sovereign and Regional Energy Security:**
Defend and expand Eskom's share of generation capacity, drive catalytic programmes: Green Hydrogen, reset the role and place of nuclear and expand and modernise transmission;

**Drive industrialisation and lead innovation**;

**Qualitatively Transform Energy Demographics: Elevate the Role of Women and Youth**;

**Assert SA, Continental and Global Energy Leadership**

# TRANSMISSION: A KEY ENABLER FOR SA'S ENERGY SECURITY

South Africa's case for change - reimagining the transmission industry through leveraging private sector participation is critical for energy security & regional energy sovereignty

**01**

## Addressing South Africa's energy security

Bid Windows 6 and 7 unable to allocate almost 6GW

TDP 2024, requires 30GW and 56GW to be grid connected by 2030 and 2034 respectively and 14,500km transmission lines

**02**

## Scaling delivery & financial requirements

Delivery rate needs to scale by 8 times implying increasing the build rate from 300 to 2300km per year

Even greater rate of investment and delivery required to 2050

Almost R390 / USD21 billion required over the next decade, highlighting critical need to explore alternative solutions

**03**

## Optimising existing capacity

17GW can be unlocked in the short-term through targeted transformer investment (CST, 2023)

Supply chain issues emerging

**04**

## Eskom's current financial position and the country's fiscal position

Places significant limitations on its ability to attract sufficient capital towards expanding the grid

In some instance, SOC capacity to prioritise and package projects is lacking

**05**

## Strong institutions & robust implementation capacity

The need for robust technical & engineering skills

# ITP RATIONALE

## Key objectives of the programme

**Support Economic Growth, Energy Security and the Energy Transition**

The ITP programme contributes to: South Africa's energy transition, the country's economic growth target of 5% (as per the National Development Plan), and addresses fiscal constraints. Key to alleviating grid constraints in integrating diverse energy technologies.

**Accelerate and Support Transmission Infrastructure Development**

Supports the implementation of South Africa's Transmission Development Plan. Leverages private sector capacity to achieve the objectives of the TDP.

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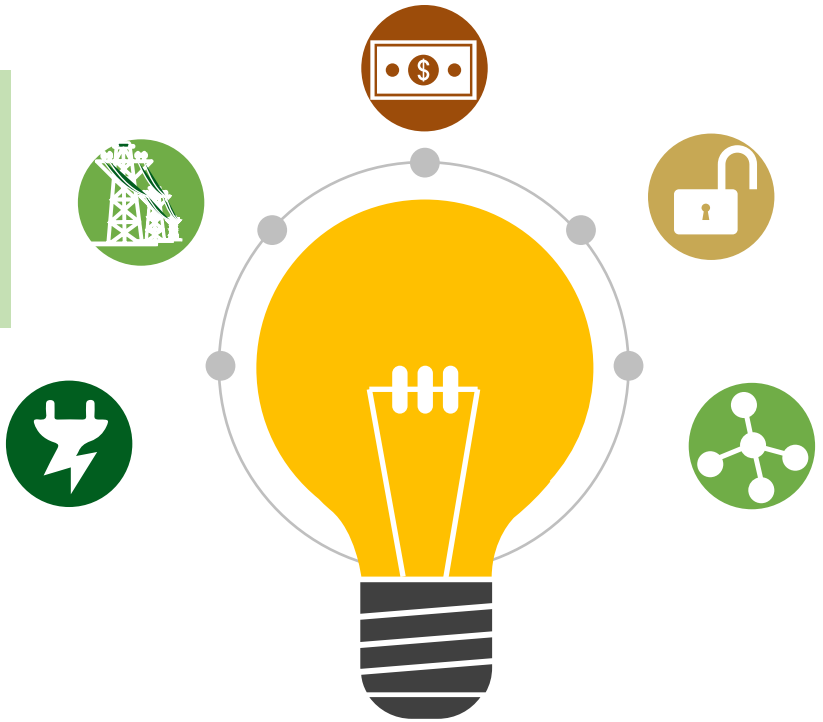
**Inform Procurement and Regulatory Frameworks**

Develop regulatory instruments to support the ITP programme.



**Mobilise Private Capital**

Facilitates investment from the private sector to meet the country's private infrastructure investment goal of 20% of GDP.

**Encourage Stakeholder Engagement**

Provides an opportunity for developers, funders, and financiers to collaborate with government on a programme of national significance.

**Sources**: Public announcement (11 December 2024) issued by the Ministry of Electricity and Energy and National Treasury and the RFI ( https://emea.dcv.ms/T6wZikhMYT )

# INDEPENDENT TRANSMISSION PROJECTS (ITP)

## Cabinet endorsed the use of ITPs – progress following Cabinet's decision

### GOVERNANCE/REGULATION

**1 Ministerial determination**

Ministerial determination for Transmission Pilot Lines **gazetted on 28 March 2025.**

**2 Regulations**

Draft Transmission Regulations (under the ERA Amendment Act) **published for public comment on 3 April 2025**.

**3 MOEE/DBSA**

**Work underway to establish the ITPO**, determine the funding model and organisational structure being finalised between DEE and **DBSA**.

### FINANCING

**4 Market Sounding**

ITP Market Sounding **jointly issued by DEE and NT** (globally) on 11 December 2024 and **closed on 28 Feb 2025**.

**5 Credit Guarantees**

A **Credit Guarantee Vehicle intended to substitute for sovereign guarantees** to be piloted and **released in parallel with ITP Pilot** (jointly between DEE/NT)

### TECHNICAL PREPARATION

**6 Project identification**

Technical **due diligence finalised**. Projects identified address the transmission capacity gaps

**7 ITP Pilot Tender**

**Pre-qualification and RFP** to be issued to market **before end of the calendar year**.

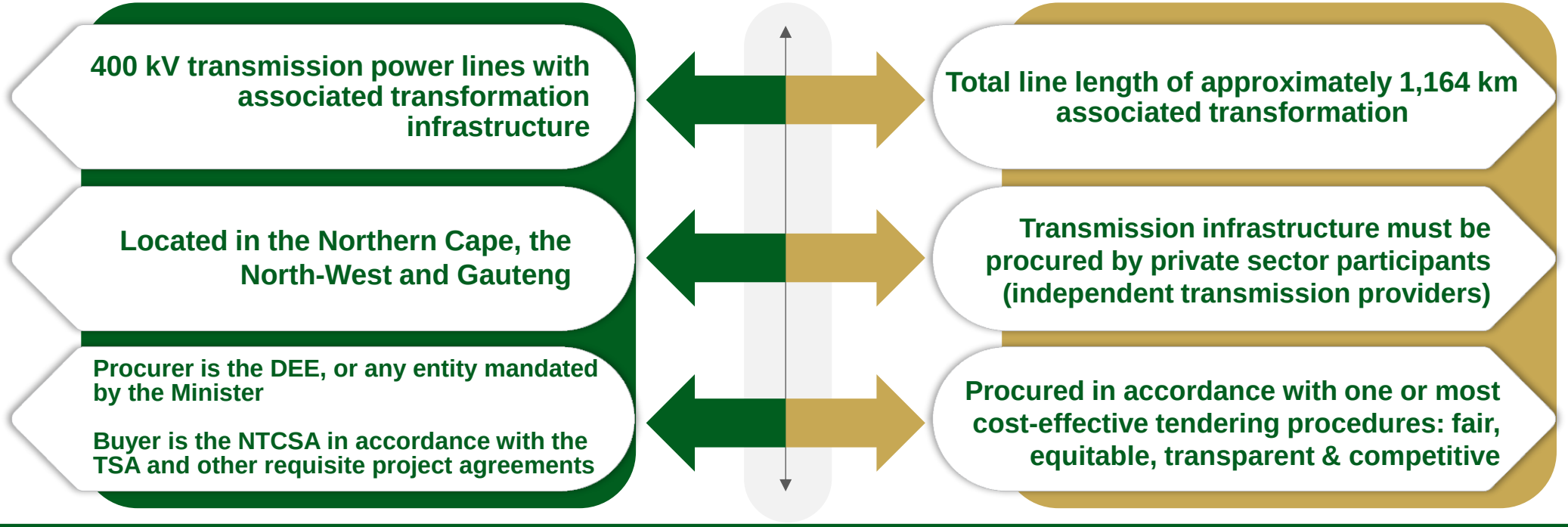
**8 Three ITP Workstreams**

Guides the **strategic direction of the ITP programme**, the **regulatory and legal framework** and **procurement design**. All key activities supported by regular workstream meetings. Includes a **Multidisciplinary Task Team between government and NERSA**.

# MINISTERIAL DETERMINATION

## Key Highlights – Gazetted on 28 March 2025

The Ministerial Determination gazetted in terms of Section 34(1)(b) of the ERA (2006), as amended, after consultation with the Minister of Finance & NERSA, for the purposes of ensuring security of supply in the national interest includes:




- Role of the procurer is to conduct one or more tendering procedures, including any RFPs, drafting the TSA and other applicable project agreements and facilitating its conclusion, in addition to requisite key responsibilities
- Buyer (NTCSA) is required by virtue of the determination to enter into the TSA/s and other project agreements concluded pursuant to the tendering procedure/s conducted

# DRAFT ELECTRICITY TRANSMISSION REGULATIONS

## Key highlights – Gazetted for public comment on 03 April 2025

The Draft Electricity Transmission Regulations, under Section 35(4) of the Electricity Regulation Act (2006), as amended, aim to:

- Facilitate **planning for the procurement of transmission capacity from private parties** by **expediting** the establishment of **new** electricity **transmission infrastructure**;
- Support measures to **enhance the reliability and security** of the national transmission power system;
- Facilitate **electricity generation connection** into the transmission power system;
- Ensure **consistency and predictability** in the application of section 34(1)(b) of the Act;
- Make provision for **Transmission Services Agreements (TSAs), multi-component determinations** and facilitate **cost recovery**;
- Create a **predictable, credible** and **transparent framework** for **private sector participation**

# DRAFT ELECTRICITY TRANSMISSION REGULATIONS

## Key highlights – TSA, Cost Recovery & Other Elements

### TSA (Draft Regulation 10)

- Must represent **value for money**
- **Transfer appropriate** technical, operational and financial **risk** to the transmission service provider
- **Contain effective mechanisms** for implementation, management, enforcement and monitoring
- **Permit adequate due diligence** by the buyer or user on the service provider's competence & capacity
- Draft Regulations 10(2) and 10(3) **guide the interaction between the procurer and the buyer or user** as it pertains to the TSA

### COST RECOVERY (Regulation 11)

The **Regulator must ensure** that the **buyer or user** is **able to recover**, at least, the **full amount of the costs** incurred, pertaining to:

- **Availability or capacity payments**, or **other compensation mechanisms** provided for in the TSA
- **Any other payments** made by the buyer or user in accordance with the TSA
- **Efficiently incurred costs incurred** by the buyer or user in terms of the TSA and costs of termination of a TSA
- **The buyer or user may request the Regulator to issue a cost recovery assurance letter before entry** into a TSA and the Regulator must respond within 30 days

### The Draft Regulations do not apply to:

- the establishment of new electricity transmission infrastructure by TSO SOC;
- the procurement of transmission capacity by TSO SOC on its own initiative;
- the carrying on by TSO SOC, in the ordinary course, of its transmitter functions as provided for in section **34B(1) of the Act or in its licence.**

# SOUTH AFRICA'S APPROACH TO SELECTING PROJECTS FOR ITPs

## Criteria applied for Phase 1 of the ITP Programme

**01**

**SA's Transmission Development Plan (2025-2034) & draft IRP 2023**
Priority projects must emanate from the country's Transmission Development Plan

**02**

**Commercial viability**
A package of lines (and substations) that will be able to attract both international and local developers (ideally in partnership)

**03**

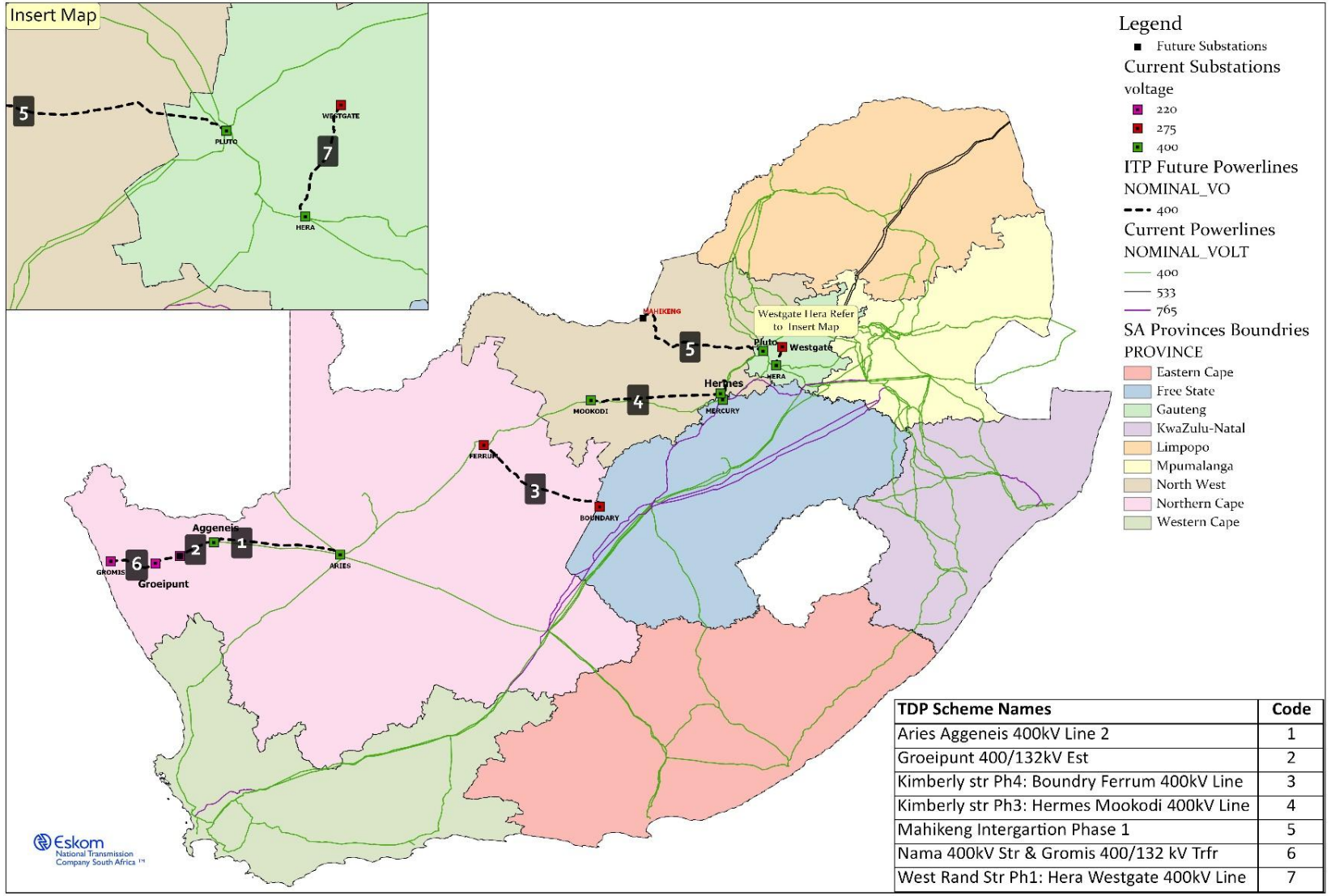
**Late-stage tender**
Late-stage tenders are much easier to organise
**ROWs largely acquired**, EIA study completed
Reduces uncertainties on the package and developers can start due diligence to bid competitively

**04**

**New RE capacity**
The amount of new renewable energy capacity each project would be able to evacuate

# ITP PHASE 1 PROJECTS

## Projects are located in the Northern Cape, North-West & Gauteng

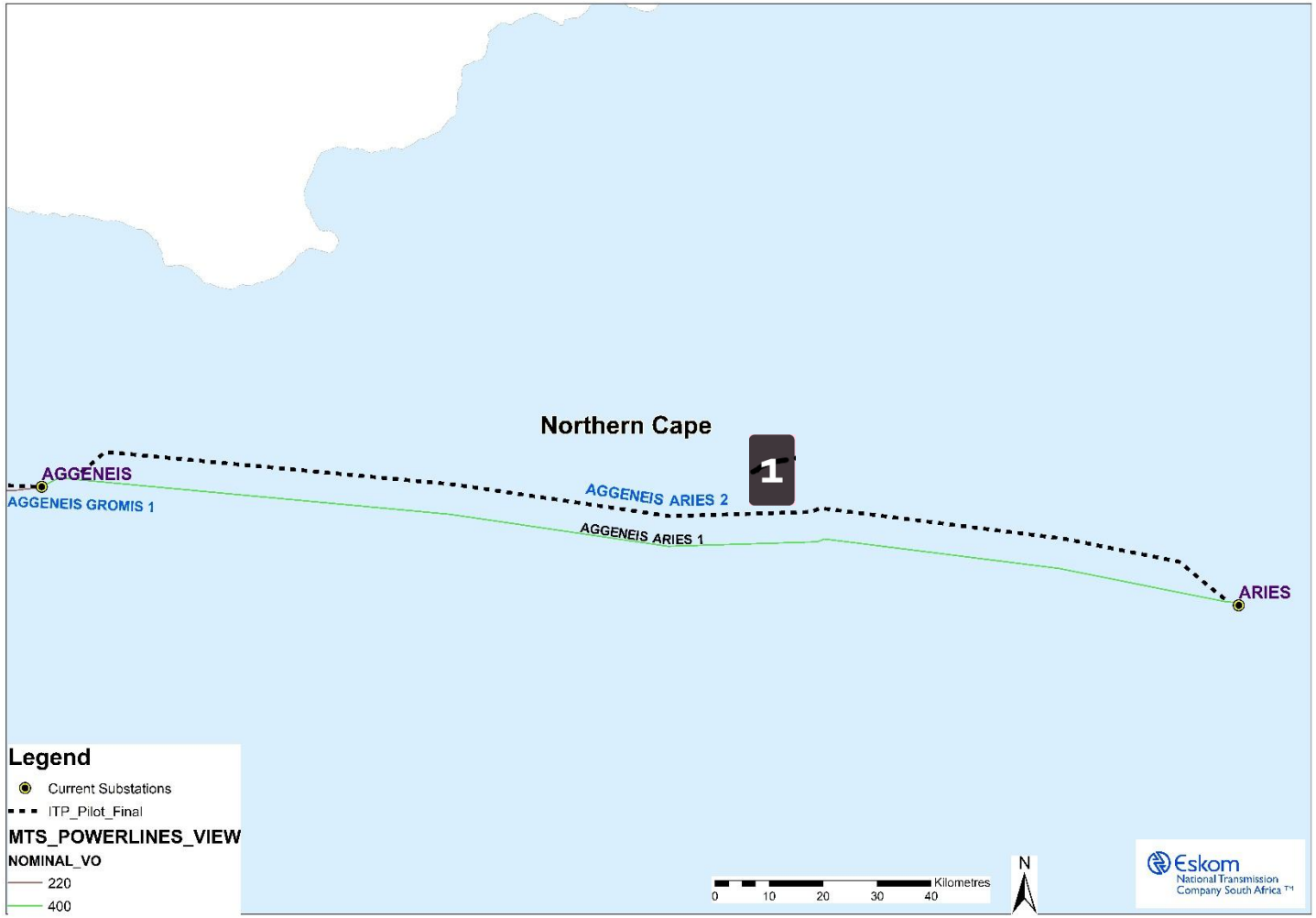



| TDP Scheme Names | Code |
|---|---|
| Aries Aggeneis 400kV Line 2 | 1 |
| Groeipunt 400/132kV Est | 2 |
| Kimberly str Ph4: Boundry Ferrum 400kV Line | 3 |
| Kimberly str Ph3: Hermes Mookodi 400kV Line | 4 |
| Mahikeng Intergartion Phase 1 | 5 |
| Nama 400kV Str & Gromis 400/132 kV Trfr | 6 |
| West Rand Str Ph1: Hera Westgate 400kV Line | 7 |

- **Total package of lines 1,164 km**
- **Total package of transformation 2,630 MVA**
- **Total package capacity 3,222 MW**
- **Projects listed in alphabetical order**

# ITP PHASE 1 PROJECT (1/7)

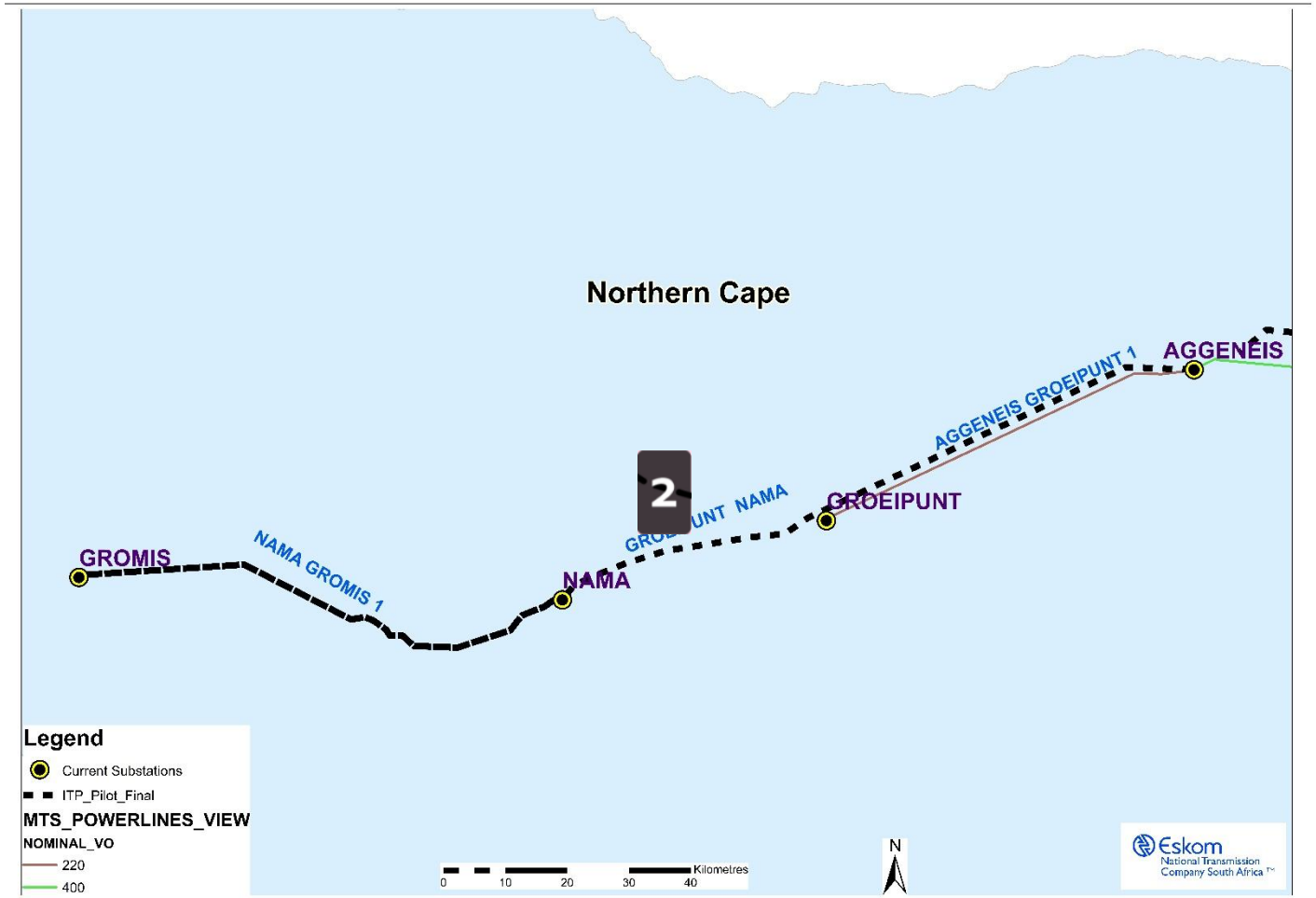
## Aries-Aggeneis 400kV Line 2




| Project Name | Aries - Aggeneis 400kV Line 2 |
|---|---|
| Overhead Line length (in km) | 200 |
| Transformation Capacity (in MVA) | 0 |
| Capacity Unlocked (in MW) | 174 |
| Associated Substation scope | Yes |
| Completion Date | 31-Aug-29 |

# ITP PHASE 1 PROJECT (2/7)

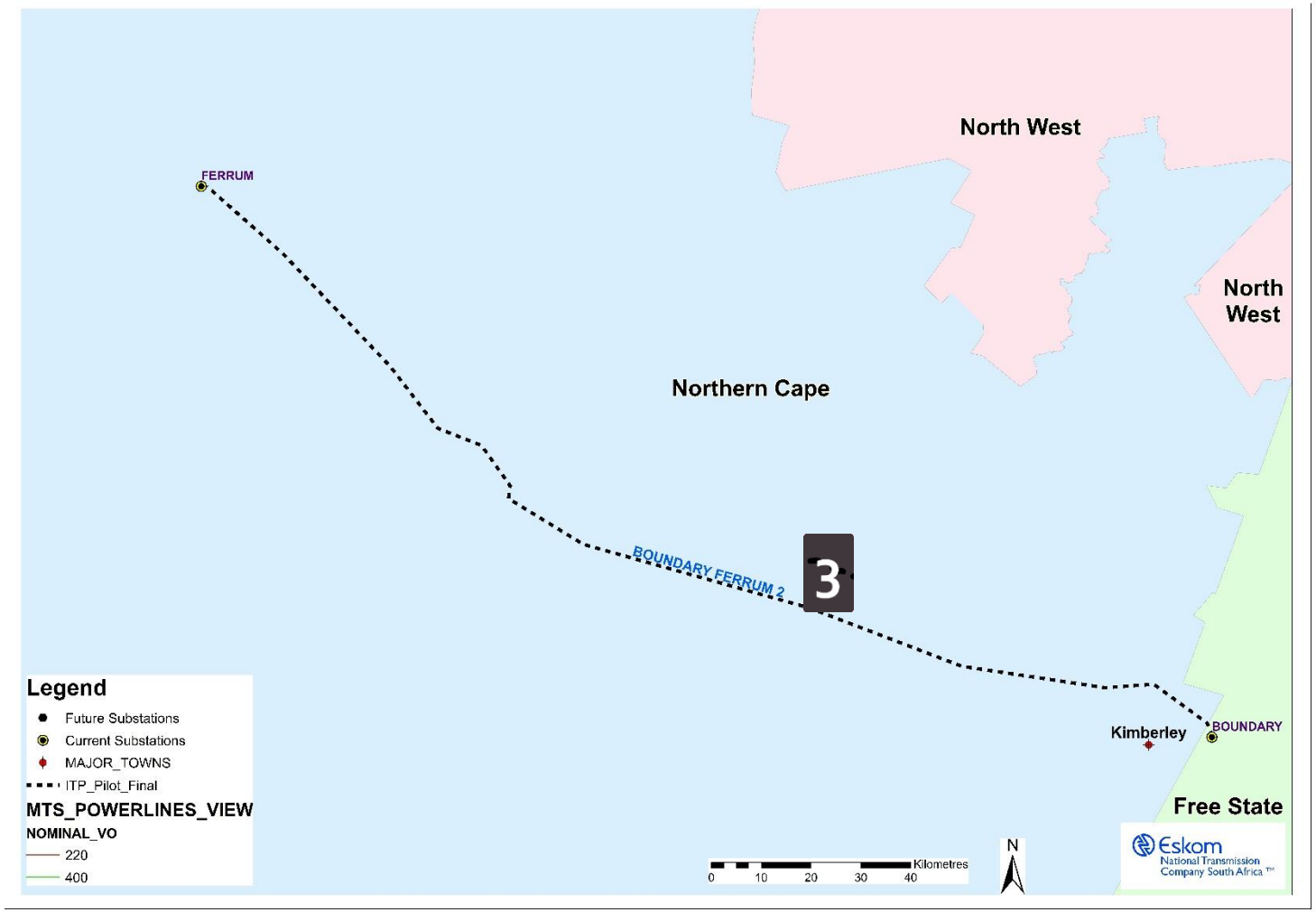
## Groeipunt 400/132kV Est. 400kV lines




| Project Name | Groeipunt 400/132kV Est. 400kV lines |
|---|---|
| Overhead Line length (in km) | 126 |
| Transformation Capacity (in MVA) | 500 |
| Capacity Unlocked (in MW) | 87 |
| Associated Substation scope | Yes |
| Completion Date | 28-Apr-29 |

# ITP PHASE 1 PROJECT (3/7)

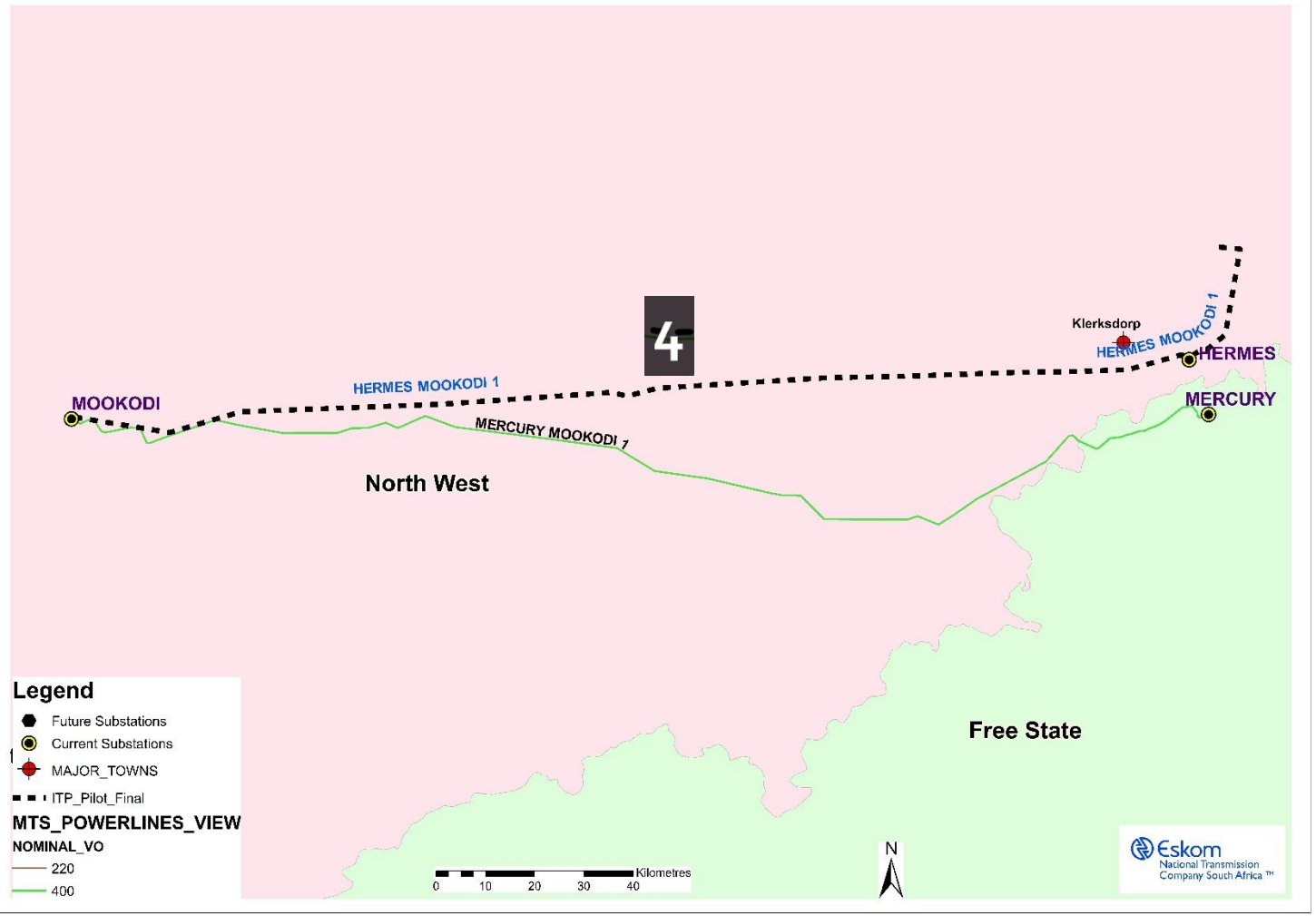
## Kimberley Str Ph4: Boundary-Ferrum 400kV line




| Project Name | Kimberley Str Ph4: Boundary-Ferrum 400kV line |
|---|---|
| Overhead Line length (in km) | 265 |
| Transformation Capacity (in MVA) | 0 |
| Capacity Unlocked (in MW) | 500 |
| Associated Substation scope | Yes |
| Completion Date | 30-Sept-29 |

# ITP PHASE 1 PROJECT (4/7)

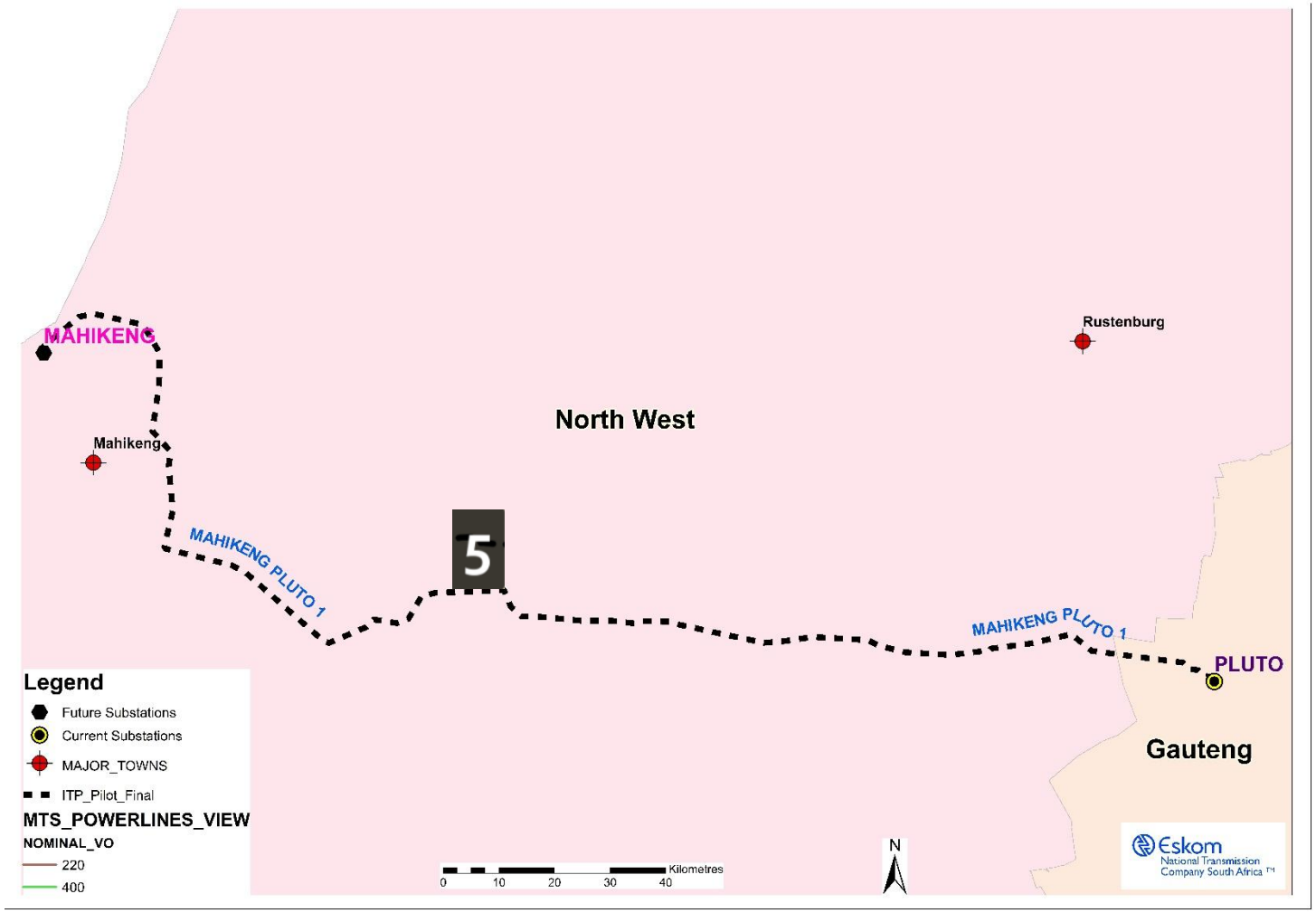
## Kimberley Str Ph3: Mookodi-Hermes 400kV line




| Project Name | Kimberley Str Ph3: Mookodi-Hermes 400 kV Line |
|---|---|
| Overhead Line length (in km) | 240 |
| Transformation Capacity (in MVA) | 0 |
| Capacity Unlocked (in MW) | 250 |
| Associated Substation scope | Yes |
| Completion Date | 30-Dec-28 |

# ITP PHASE 1 PROJECT (5/7)

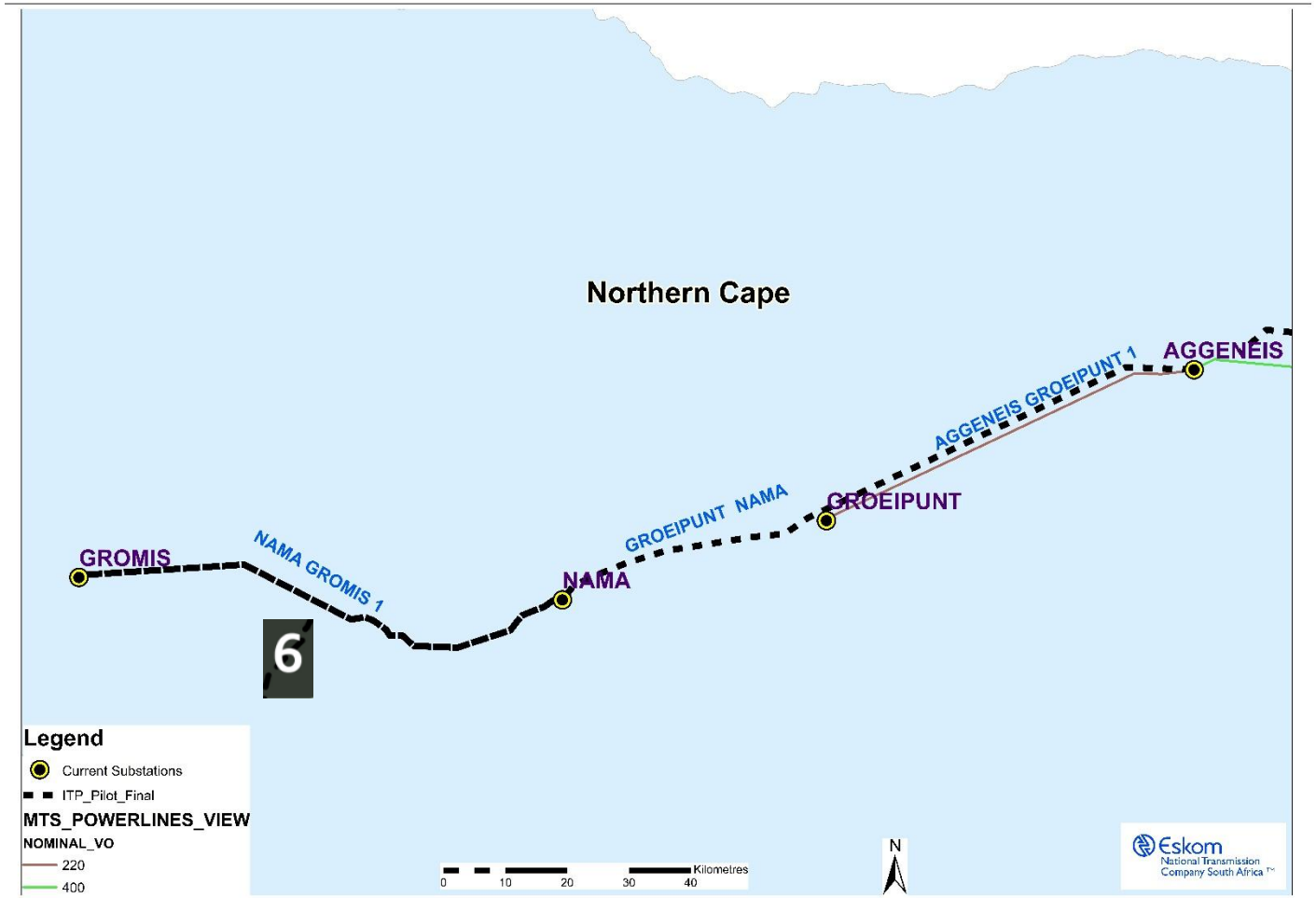
## Mahikeng Integration Phase 1




| Project Name | Mahikeng Integration Phase 1 |
|---|---|
| Overhead Line length (in km) | 180 |
| Transformation Capacity (in MVA) | 630 |
| Capacity Unlocked (in MW) | 1,000 |
| Associated Substation scope | Yes (New Substation) |
| Completion Date | 24-Dec-30 |

# ITP PHASE 1 PROJECT (6/7)

## Nama 400kV Str & Gromis 400/132kV Trfr




| Project Name | Nama 400kV Str & Gromis 400/132kV Trfr |
|---|---|
| Overhead Line length (in km) | 117 |
| Transformation Capacity (in MVA) | 1,000 |
| Capacity Unlocked (in MW) | 811 |
| Associated Substation scope | Yes |
| Completion Date | 28-Feb-30 |

# ITP PHASE 1 PROJECT (7/7)

## West Rand Strengthening Phase 1: Hera-Westgate 400kV line


| Project Name | West Rand Strengthening Phase 1: Hera - Westgate 400kV Line |
|---|---|
| Overhead Line length (in km) | 36 |
| Transformation Capacity (in MVA) | 500 |
| Capacity Unlocked (in MW) | 400 |
| Associated Substation scope | Yes |
| Completion Date | 30-Jan-29 |

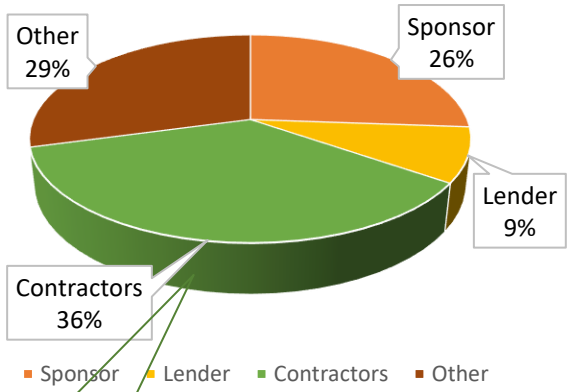
# ITP MARKET SOUNDING

## High-level overview of market sounding analysis

**113 questions** covering various categories and topics, comprised of the following sections, with **over 130 responses received**:

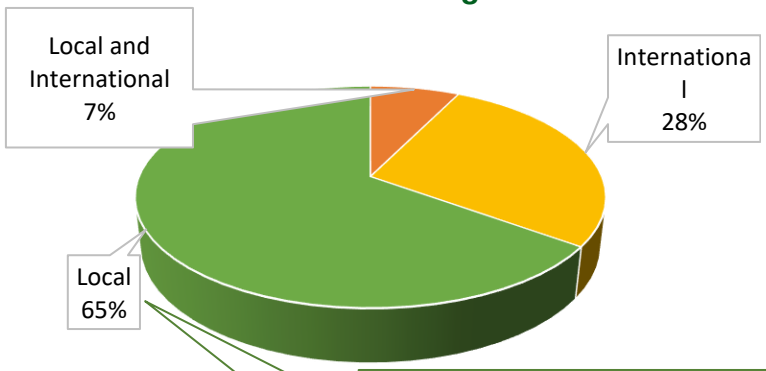
| Section | Category | Number of questions |
|---|---|---|
| Section 1 | Respondent Information | Q 1- 17 (17 questions) |
| Section 2 | ITP and Structure | Q 18- 52 (35 questions) |
| Section 3 | ITP Financing Information | Q 53- 66 (14 questions) |
| Section 4 | ITP Security Information | Q 67- 88 (22 questions) |
| Section 5 | Risk Allocation | Q 89- 103 (15 questions) |
| Section 6 | Regulatory Risk | Q 104- 110 (07 questions) |
| Section 7 | Other Information | Q 111- 113 (3 questions) |

### Respondent Category



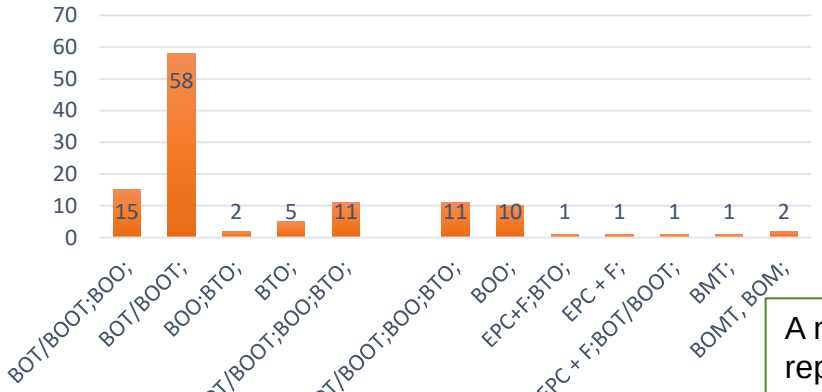

**Majority of the participants** are **involved in project execution and funding**

### Local/ International Organisation



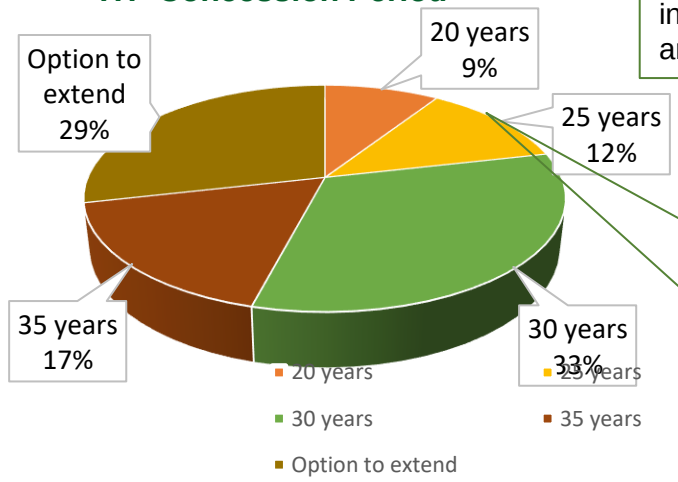

**Local entities have shown a keen interest in the ITP**, 44% have indicated that they are already partnered with international organisations, or are willing to do so if required

### Model for Implementing the ITP Programme




A majority of respondents, representing all respondent categories, **indicated that the BOT/BOOT model** is the most appropriate

### ITP Concession Period




Appetite for 25 -35-year agreements with options to extend

Brazil uses a concession period of an initial term of 25 years and 35 years in India

# ITP MARKET SOUNDING

## High-level Overview

### Key insights gained from the RFI responses – **ITP Structure**

Roll out of the programme to be **guided by international best practice**

Appetite for **25 -35-year agreements** with options to extend

**Key agreements to be in place** for the allocation of risk to be shared between the government and private sector, as well as the need for robust project agreements

**Varying indications on the appropriate/optimal length** of lines for the pilot




Support for **BOT/BOOT models**

Several key considerations and concerns that need to be addressed to ensure its effectiveness, sustainability, and **alignment with broader economic, social, and environmental goals**

Project structure to mitigate execution and concentration risk

**Preference for capacity payments from NTCSA** rather than users with a **minimum availability percentage of over 97%** and **penalty systems** linked to availability thresholds, delays, and maintenance failures; **incentives for exceeding performance** targets

# ITP MARKET SOUNDING

## High-level Overview

### Key insights gained from the RFI responses – **Risk Allocation (incl major risks cited)**

The need to **develop adequate mitigation strategies upfront** before the launch of the first phase of the broader rollout of the ITP Programme

Environmental and Social (ESIA) aspects and all **related permitting and approvals required that can significantly affect timelines**


**Right of Way (ROW) considerations** that affect land acquisition as well as timelines

Eensuring these are secured upfront by government – various case studies internationally on how this has been managed to be considered

**Supply chain constraints for local content requirements**, as well as shortages or delays to equipment, materials and labour that affect timelines

Sufficient concept designs and land acquisition issues to be addressed upfront

**Appropriate allocation of risks to the party best placed to deal with such** would ultimately impact not only the commercial viability of the projects but also the pricing of risk

**Various mitigation measures have been proposed by the market** – providing valuable insights from real-world experience

# ITP MARKET SOUNDING

## High-level Overview

### Regulatory risk

**Establishing a stable and transparent regulatory environment**, alongside fostering private sector involvement, will be crucial for the successful implementation of transmission projects in South Africa

**Regulatory certainty including NTCSA revenue model** as a requirement

**Improved coordination and collaboration between different regulatory bodies** to create a more unified and efficient approach to addressing regulatory bottlenecks

**Unclear regulatory framework and permitting** issues that need to be addressed


Regulatory barriers need to be addressed upfront

**Respondents also suggested mitigation measures** to address these concerns which provided valuable insight from experienced market participants

**Regulatory approval and licensing for new entities**

Grid integration and capacity constraints

# ITP MARKET SOUNDING

## High-level Overview

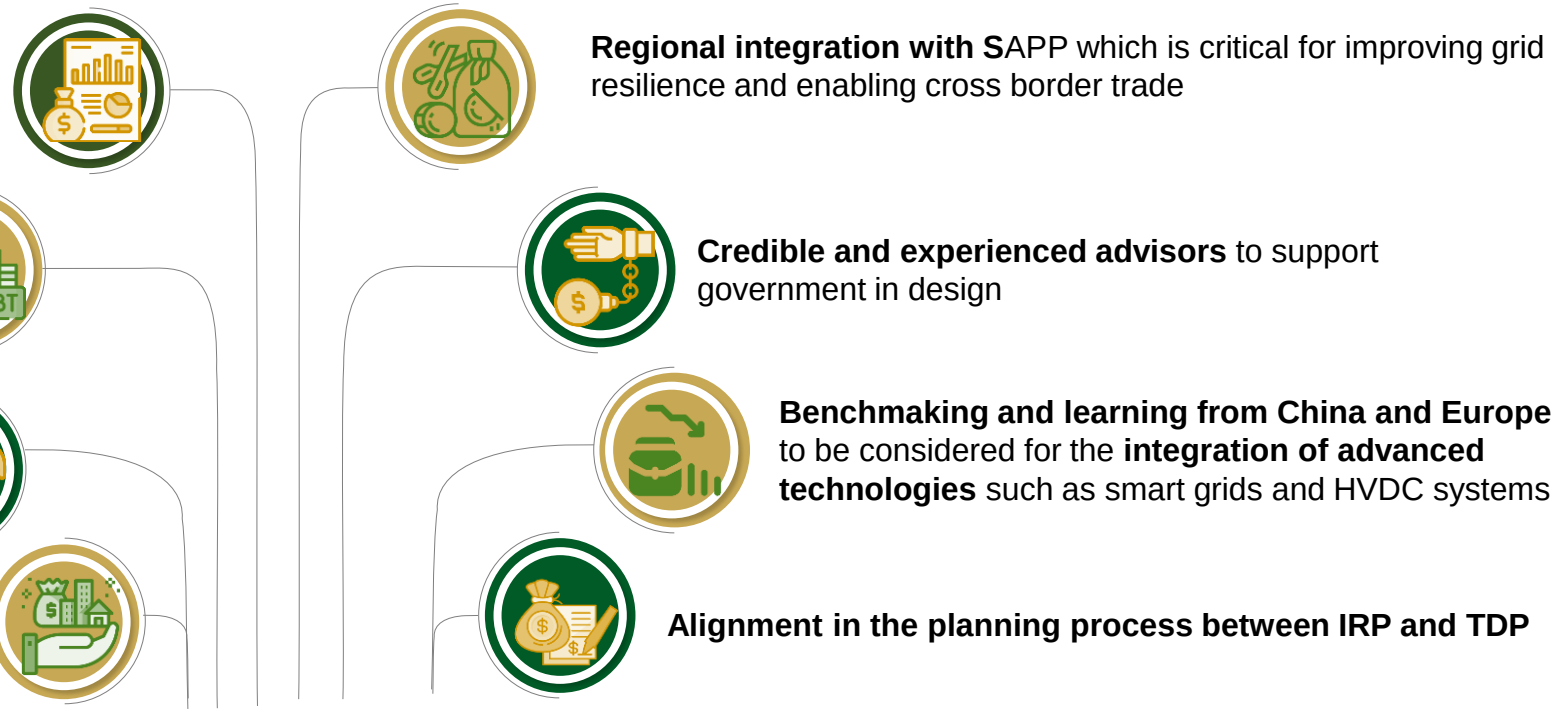
### Other recommendations

**Programmatic approach with frequent rounds leveraging IPPO successes** (predictability key)

Importance of **strong public-private collaborations**

**Stable and transparent regulatory environments**, as seen in **Brazil, India, Chile, and Peru**.

**Consideration of financial tools used in markets like the U.S., Chile, and Mexico**, such as sovereign-backed guarantees, green bonds, and availability-based payments




**Regional integration with S**APP which is critical for improving grid resilience and enabling cross border trade

**Credible and experienced advisors** to support government in design

**Benchmaking and learning from China and Europe** to be considered for the **integration of advanced technologies** such as smart grids and HVDC systems

**Alignment in the planning process between IRP and TDP**

***Transparency, credibility and predictability is key for strong public-private collaborations***

# PHASE 1 OF THE ITP PROGRAMME

## Next steps

### Request for Information (RFI)

Released in December 2024 to gather insights on alternative models for transmission infrastructure development, potential delivery mechanisms, and private sector interest and readiness. Closed for comment on **28 February 2025**.

### Request for Qualification (RFQ)

Request for Qualification (RFQ) will be released in **July 2025**

### Request for Proposals (RFP)

Request for Proposals will be released in **November 2025**

**A PROGRAMMATIC APPROACH GOING FORWARD**

***Following Phase 1*** *of the ITP Programme,* ***government will bring in a programmatic approach*** *over the medium to long-term* ***creating predictability and certainty*** *with* ***successive bid windows implemented***