

# SIP 10: National DEA Electricity Grid Infrastructure SEA

SANBI Biodiversity Planning Forum  
June 2015



# Electricity Grid Infrastructure (EGI) Strategic Environmental Assessment (SEA)

- **Problem:** long lead times for grid expansion
  1. Protracted Environmental Authorisation and permitting process
  2. Servitude negotiation and acquisition
- **Solution:**
  1. Start grid development earlier i.e. undertake strategic grid planning to identify priority expansion corridors/ areas; and
  2. Allow for streamlined environmental authorisation and permitting processes within strategic areas
- DEA undertaking the SEA to assist Eskom with identifying priority corridors and to improve regulatory processes inside corridors in support of SIP 10

*“We need to identify innovative approaches to fast-track delivery by government in the energy sector”*

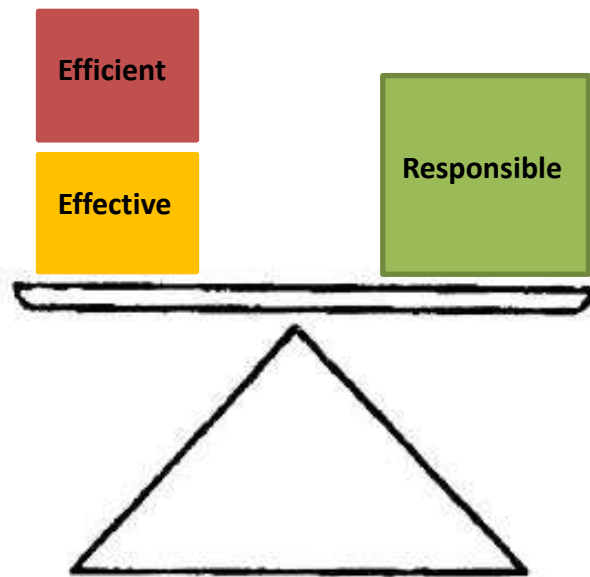
*President Jacob Zuma  
SONA 2014*

# EGI SEA

**Vision for the SEA:** *Strategic Electrical Grid Infrastructure is expanded in an environmentally **responsible** and **efficient** manner that responds **effectively** to the country's economic and social development needs.*

## **Objectives of the SEA:**

- Identify strategic corridors to support backbone of electricity transmission up to 2040.
- Refine the corridors based high level suitability from an environmental, economic and social perspective.
- Undertake scoping level environmental pre-assessment of the corridors
- Facilitate streamlined environmental authorisation of EGI (Tx and Dx) development inside of corridors
- Promote integrated decision-making between authorising authorities
- Gazette the corridors under the SIP programme (Infrastructure Development Act )
- Enable Eskom greater flexibility when negotiating servitudes
- Support upfront strategic investment



- **Project Timeframe: January 2014 – December 2015**
- **Project Steering Committee (PSC)**
  - DAFF
  - DENC
  - GDARD
  - LEDET
  - SAAF
  - WC DEADP... etc.
- **Expert Reference Group (ERG)**
  - Birdlife South Africa
  - Cape Nature
  - EWT
  - SAHRA
  - SAWEA... etc.

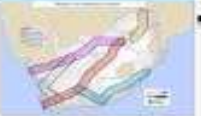
# The starting point

## EGI SEA PROCESS

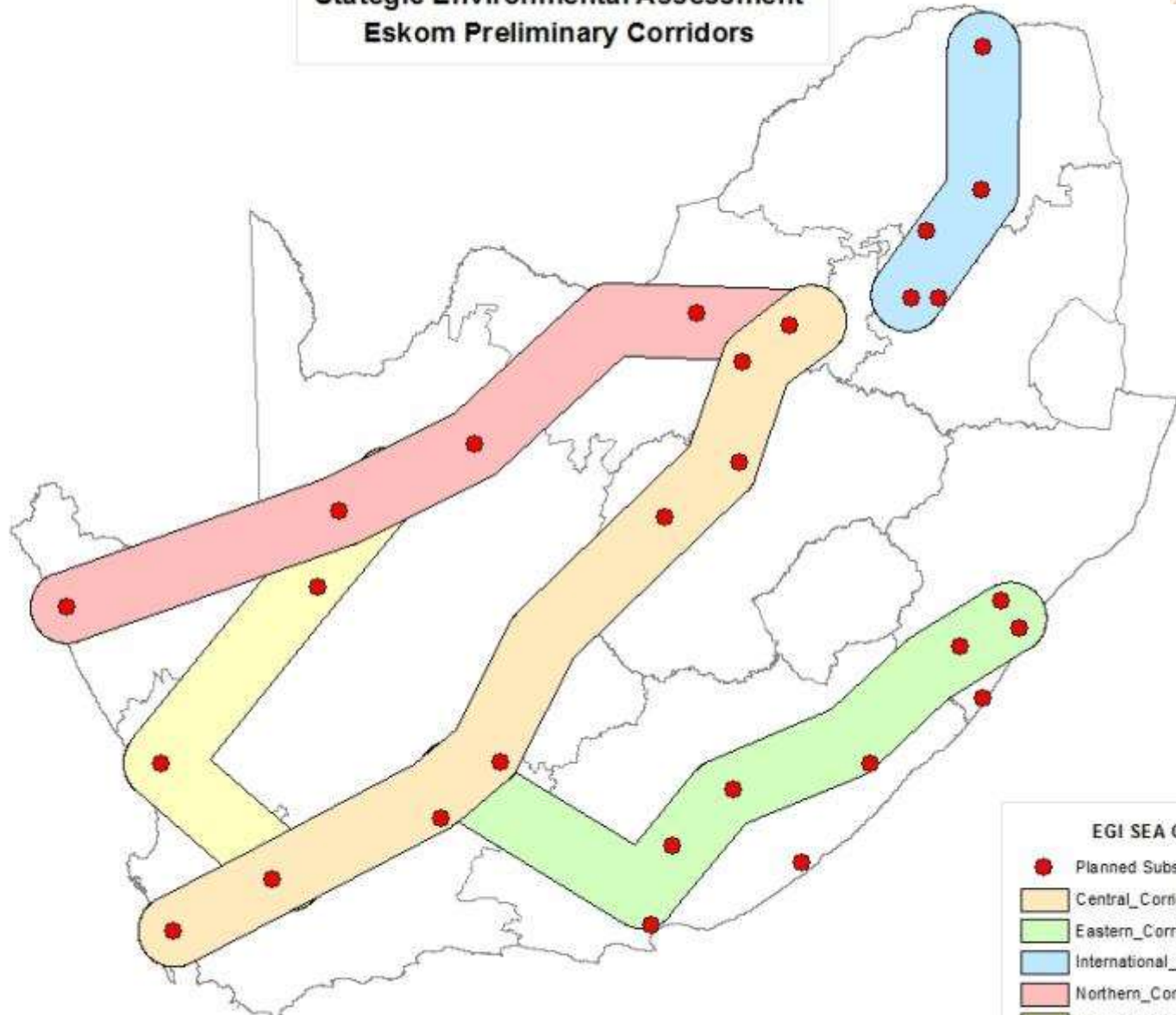
**The Corridors**  
(Starting Point)  
Jan 2014

- **Eskom's Strategic Grid Plan Study 2040**
- **Three Scenarios**
  - IRP 2010-2030
  - Increased renewables
  - Increased imports
- **5x 100km wide corridors**

Eskom  
Preliminary  
Corridors



# Electricity Grid Infrastructure Strategic Environmental Assessment Eskom Preliminary Corridors



**EGI SEA Corridors**

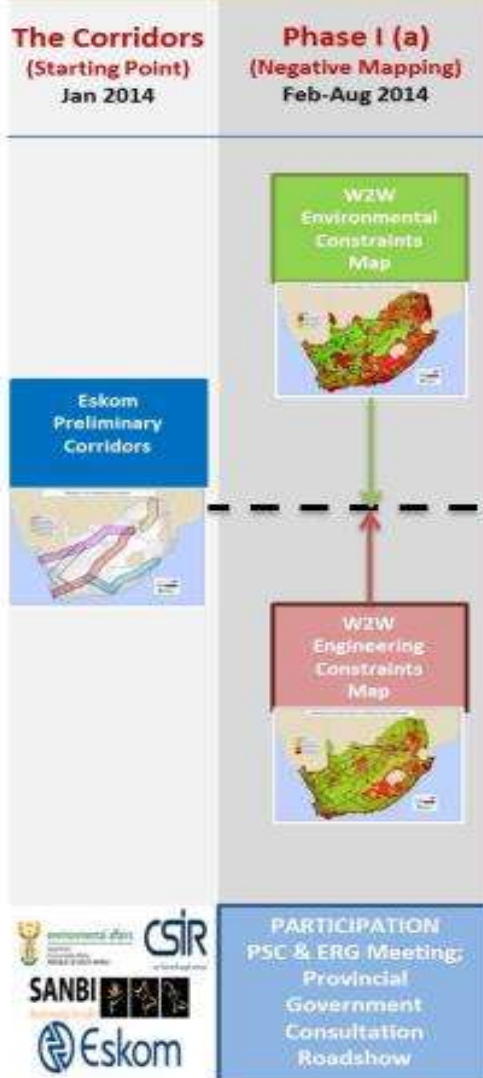
- Planned Substations (1-10 years)
- Central\_Corridor
- Eastern\_Corridor
- International\_Corridor
- Northern\_Corridor
- Western\_Corridor





# Phase Ia: Negative Mapping

## EGI SEA PROCESS



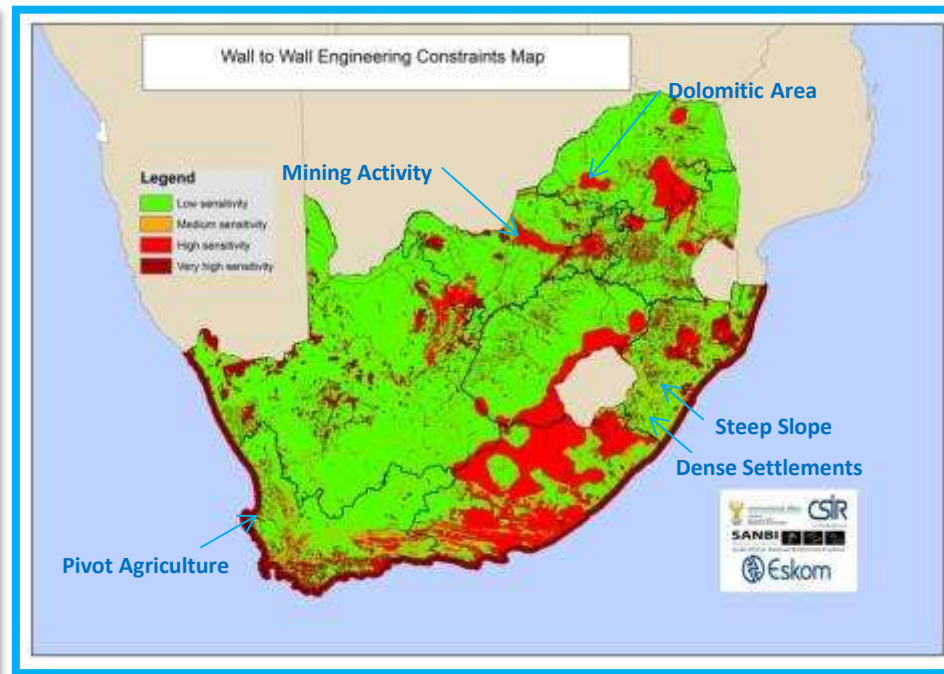
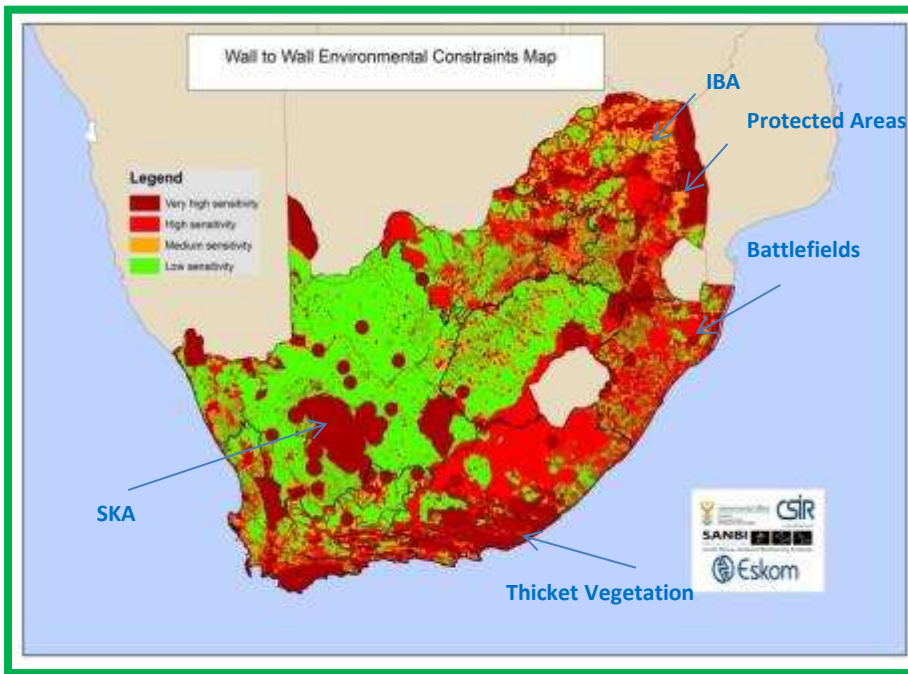
- Impact of EGI on Environment

- Impact of Environment on EGI

Environmental Constraints Categorisation	
Level of Constraint	Description
Very High	The area is rated as extremely sensitive to the negative impact of electricity grid infrastructure development. As a result the area will either have very high conservation value, very high existing / potential socio-economic value or hold legal protection status.
High	The area is rated as being of high sensitivity to the negative impact of electricity grid infrastructure development. As a result the area will either have high conservation value and or existing/potential socio-economic value.
Medium	The area is rated as being of medium sensitivity to the negative impact of electricity grid infrastructure development. As a result the area will either have medium levels of conservation value and/or medium levels of existing/potential socio-economic value.
Low	Area is considered to have low levels of sensitivity in the context of electricity grid infrastructure development.

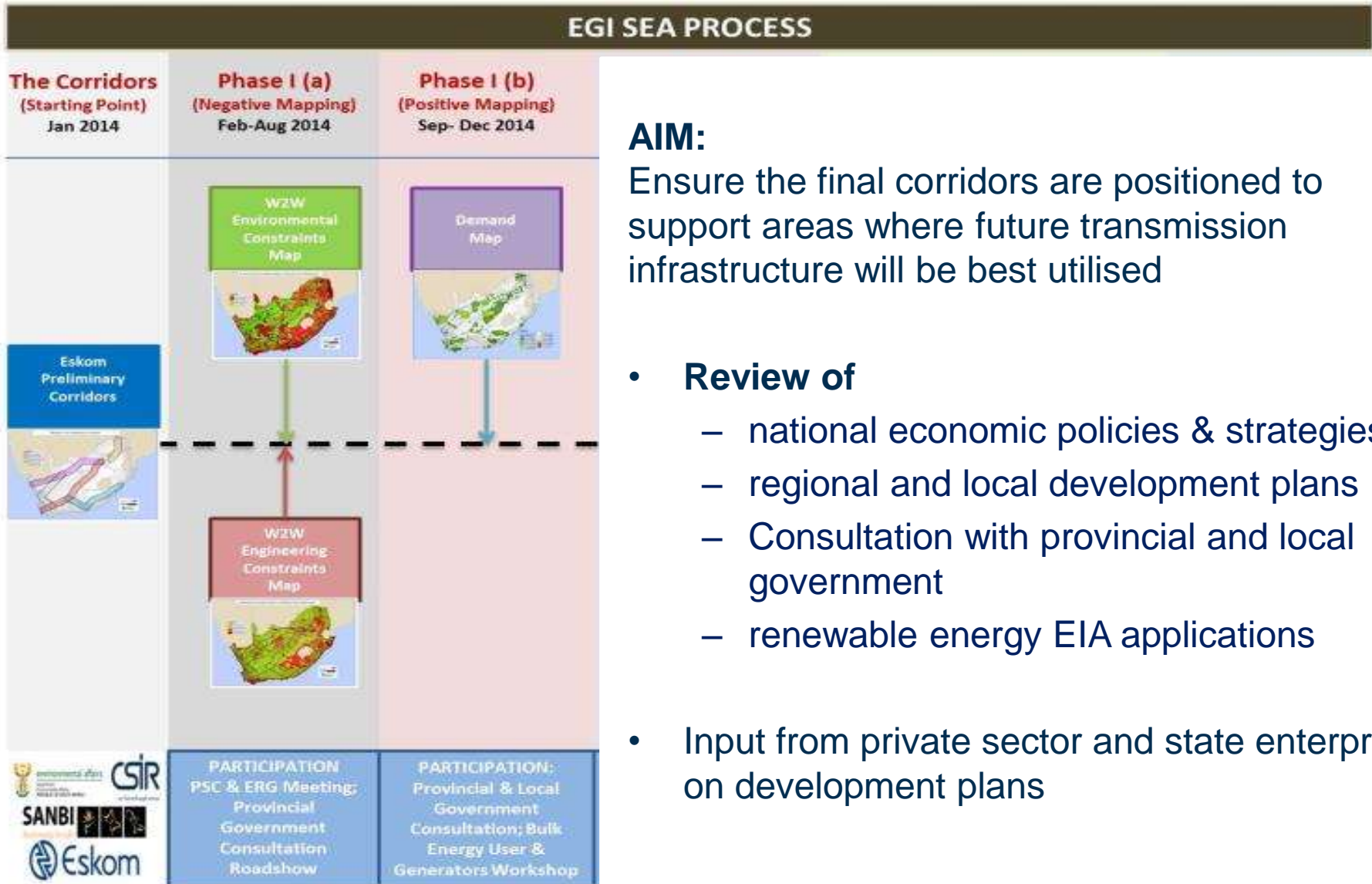
Engineering Constraints Categorisation		
Level of Constraint	Description	BCI
Very High	The lifetime cost associated with development in this area is greater than 150% the baseline lifetime cost index.	>1.5X
High	The lifetime cost associated with development in this area is between 120% and 150% the baseline lifetime cost index.	>1.2X<1.5X
Medium	The lifetime cost associated with development in this area is between 100% and 120% the baseline lifetime cost index.	>X<1.2X
Low	The lifetime costs associated with development in this area is less than 1.5 times the baseline lifetime cost index.	X

# Phase Ia: Negative Mapping





# Phase Ib: Positive Mapping

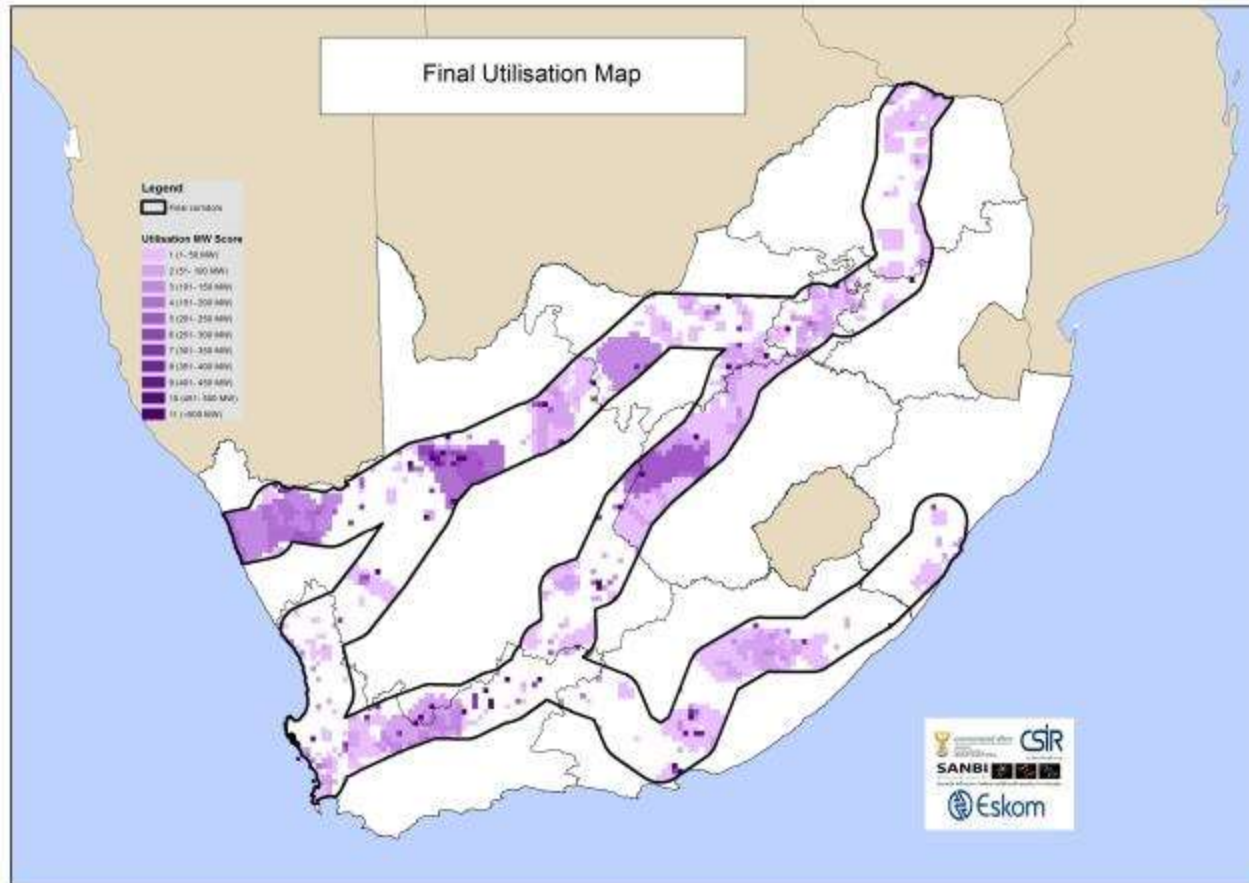


## AIM:

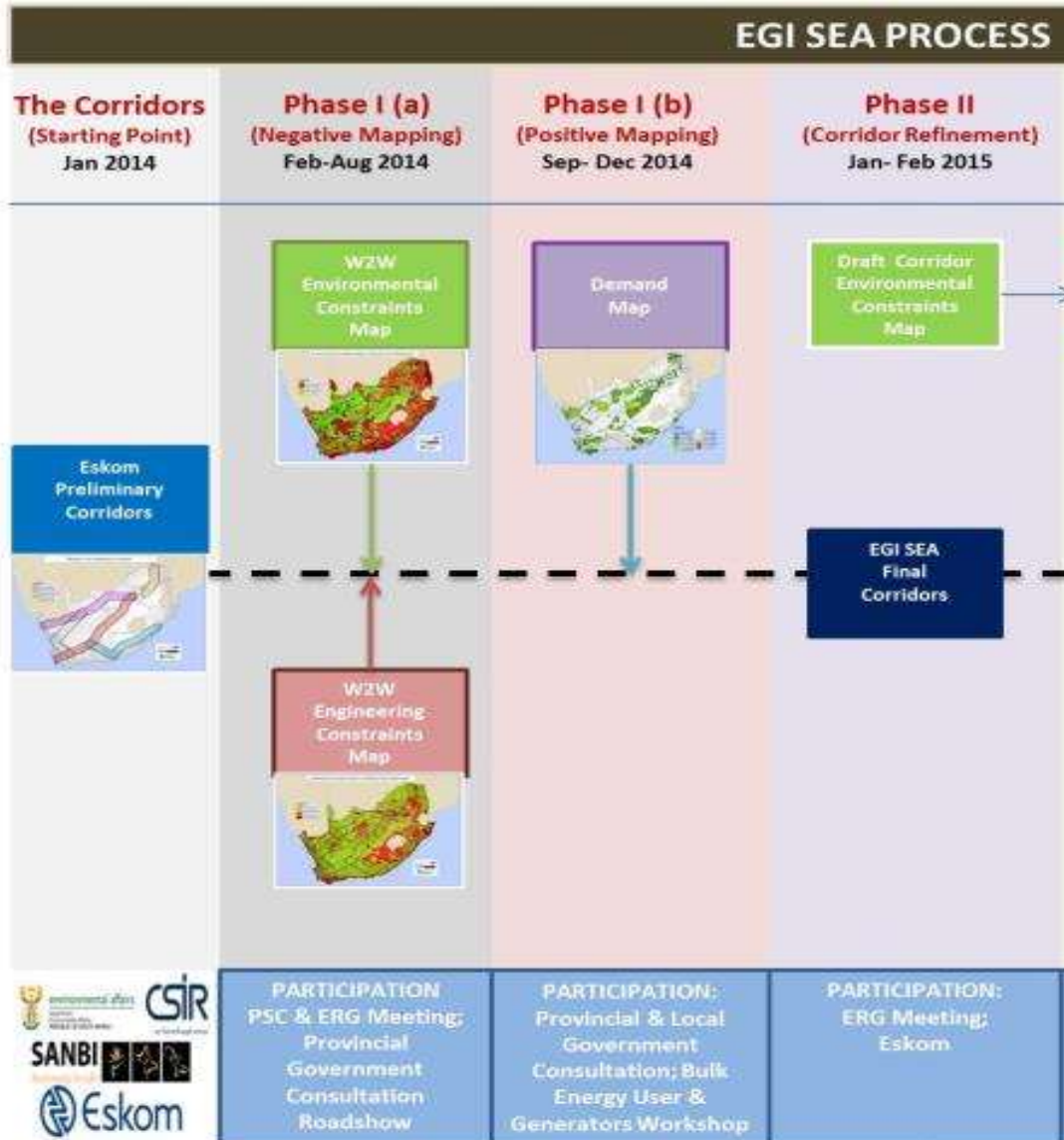
Ensure the final corridors are positioned to support areas where future transmission infrastructure will be best utilised

- **Review of**
  - national economic policies & strategies
  - regional and local development plans
  - Consultation with provincial and local government
  - renewable energy EIA applications
- Input from private sector and state enterprise on development plans

# Phase Ib: Positive Mapping

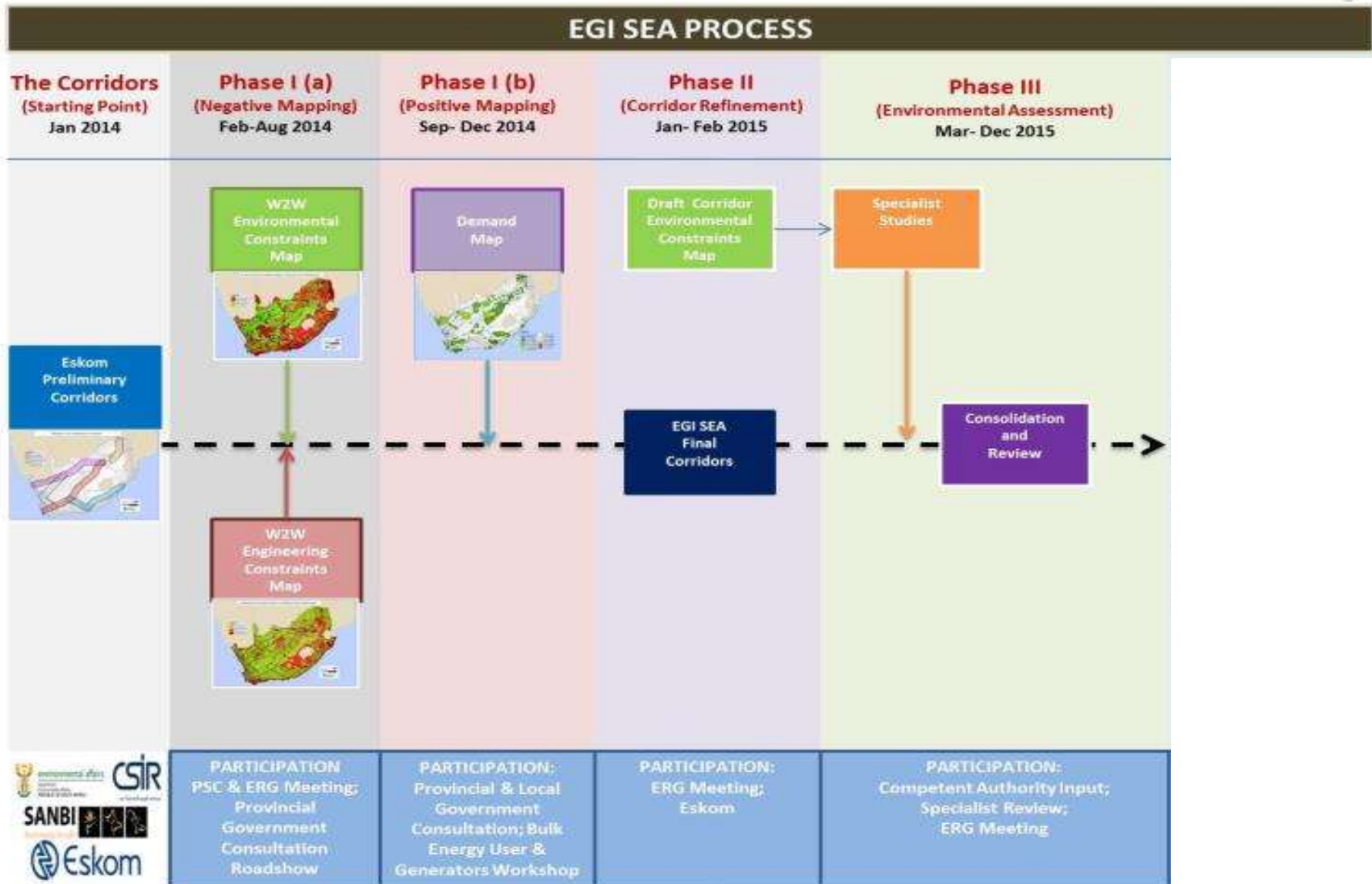


# Phase II: Corridor Refinement



- Corridors refined based on outputs of Phase Ia & Ib
- Details of analysis to follow in presentation by Fahiema Daniels

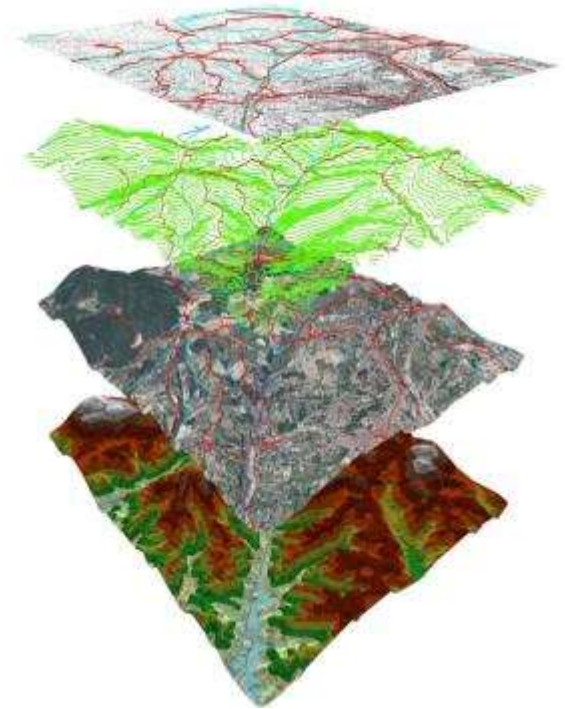
# Phase III: Environmental Assessment





# Phase III: Environmental Assessment

- Terrestrial and Aquatic Biodiversity Assessment
- Agricultural Assessment
- Avifaunal Assessment
- Heritage Assessment
- Visual Impact Assessment
- Socio-Economic

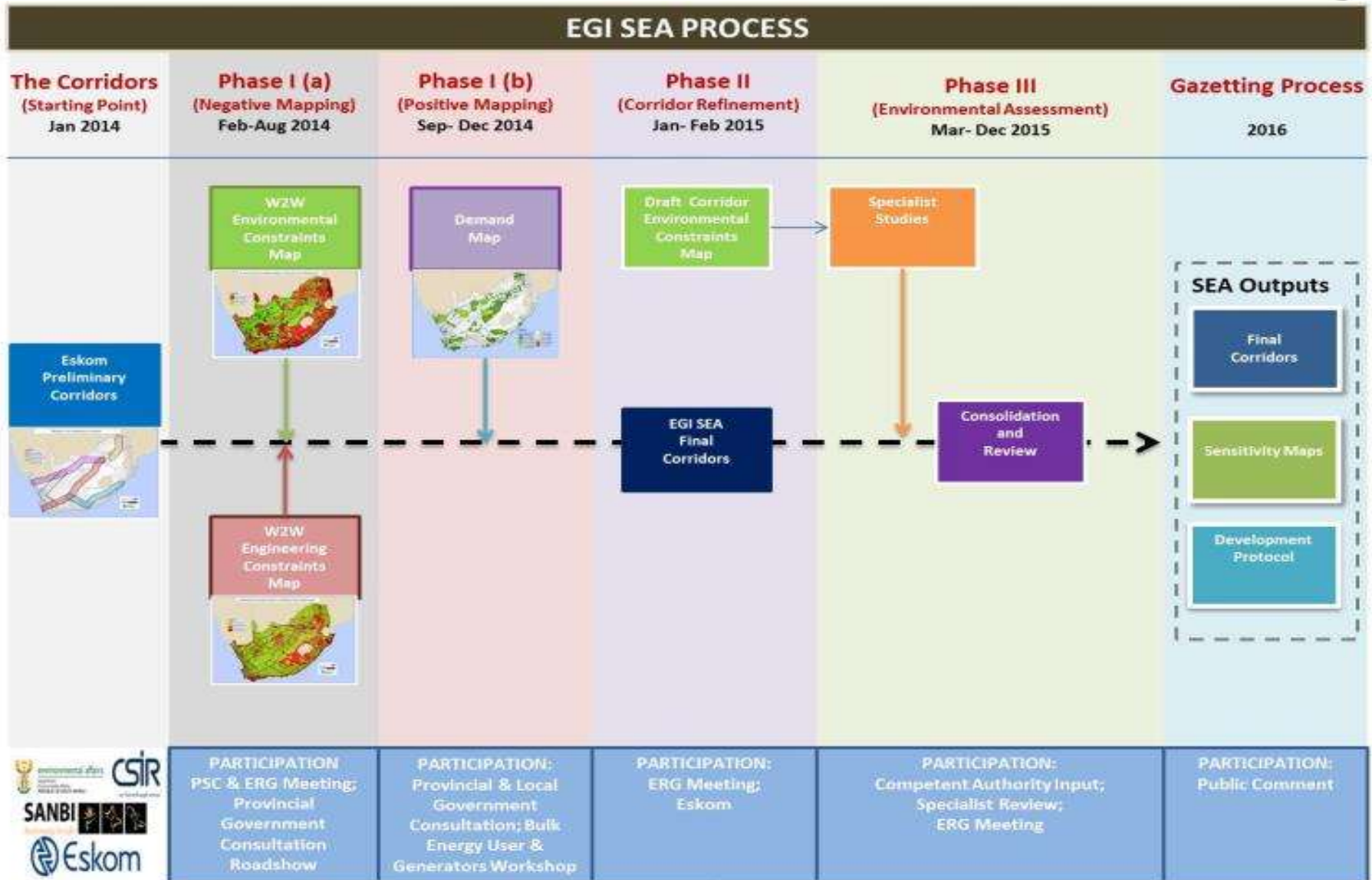


## Site Specific Development Protocol

Colour	Sensitivity	Further assessment requirements
Dark red	Very High	Comprehensive Visual Impact Assessment (VIA)
Red	High	Landscape Compliance Statement
Orange	Medium	Landscape Compliance Statement



# Final Outputs:



# Thank you

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