Eskom's Just Energy Transition

within

A South African Just Transition Context

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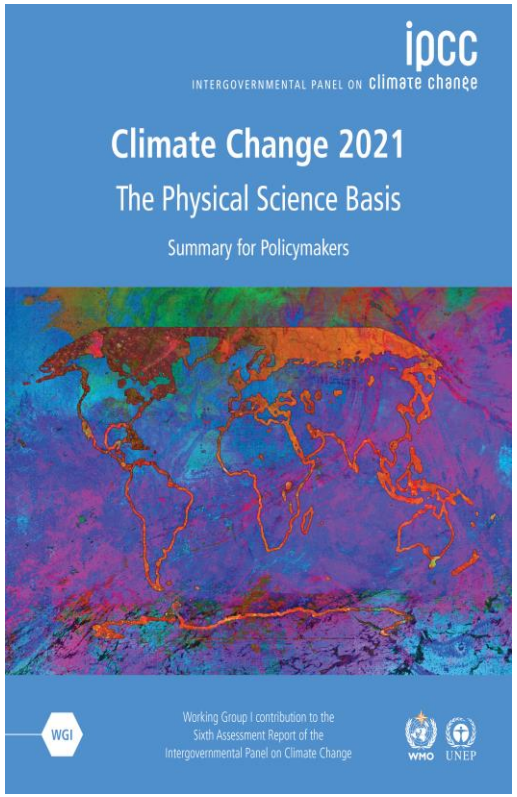
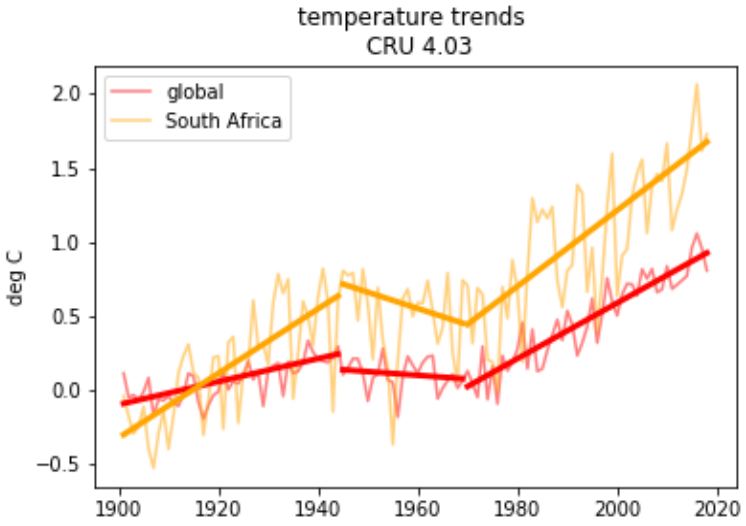
The science is clear: globally, economies need to reduce emissions to net-zero by 2050 and implement roughly 50% reductions by 2030 to avoid the worst effects of climate change





SOUTH AFRICA WARMS AT TWICE THE GLOBAL RATE

Failing to do so would be disastrous for South Africa:

- The latest IPCC findings show 1.5 degrees Celsius of global warming is likely, which means **3 degrees Celsius for South Africa**.
- Sub-Saharan Africa can expect **more frequent heat waves, heavy rainfall, fires and droughts** which will affect livelihoods, tourism, agriculture, water systems and ecosystems.
- Only with **ambitious emissions cuts** can the world keep global temperature rise to 1.5 degrees, which is necessary to **prevent the worst climate impacts.**

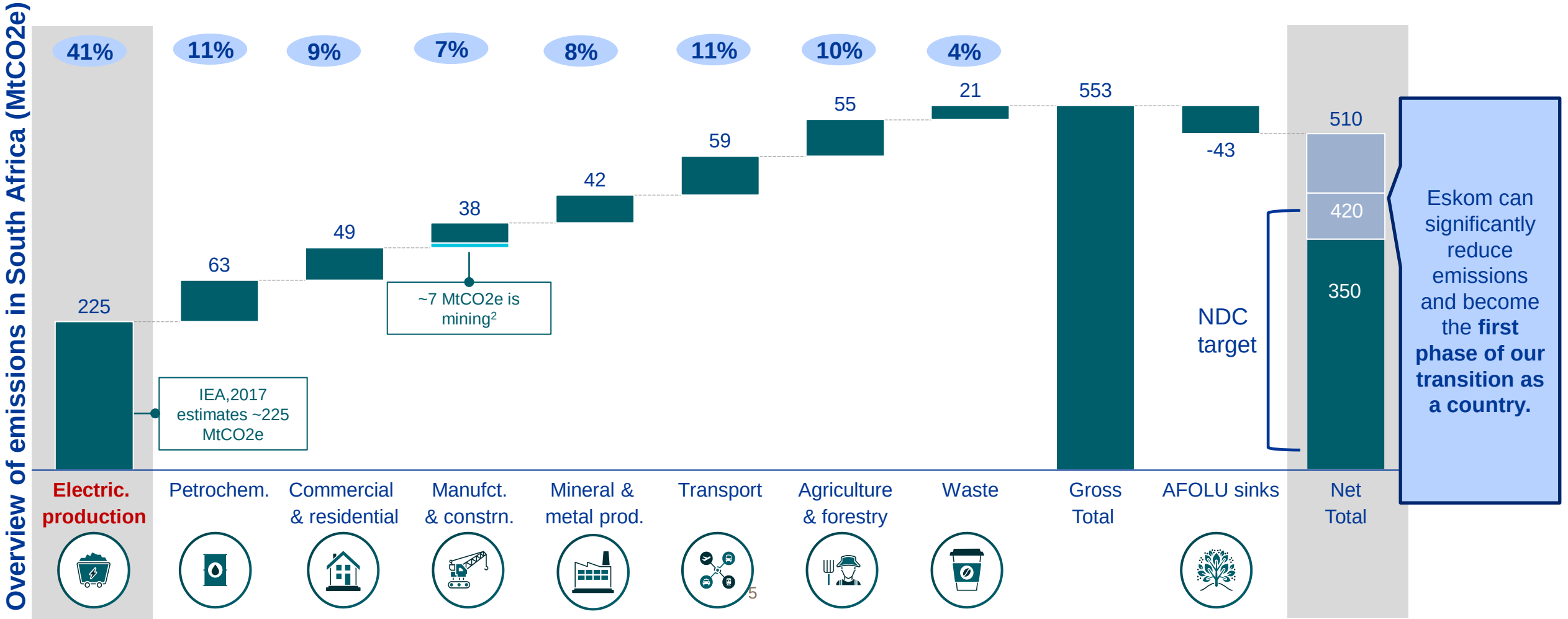
Addressing the climate change imperative is crucial to the long term sustainability of the country, and its people

A *JUST TRANSITION* for South Africa is a non-negotiable

- As outlined in South Africa's National Development Plan, the **Just Transition** refers to a transition towards **a low carbon economy and a climate resilient society** in a manner that **does not impede socio-economic development**, is **socially just** and results in an **increase in sustainable jobs.**
- Our **national priorities** in achieving this pathway are clear**:**
  - Pursue ***development goals*** (poverty eradication, economic transformation, job creation)
  - Ensure that the just transition ***creates more jobs***, prioritising coal communities impacted by the transition (particularly in the Mpumalanga province)
- Ironically, **given the confluence of factors** – ageing coal plant, vulnerability to climate change and slow growth – **South Africa offers a unique opportunity to investors to finance decarbonisation in the country.**
- **Carbon abatement** in South Africa costs approximately USD 7/ton, compared to developed countries at USD 120 /ton.
- **Our value proposition** is to offer **significant decarbonisation in the electricity sector** as a first phase of our transition, for climate investors

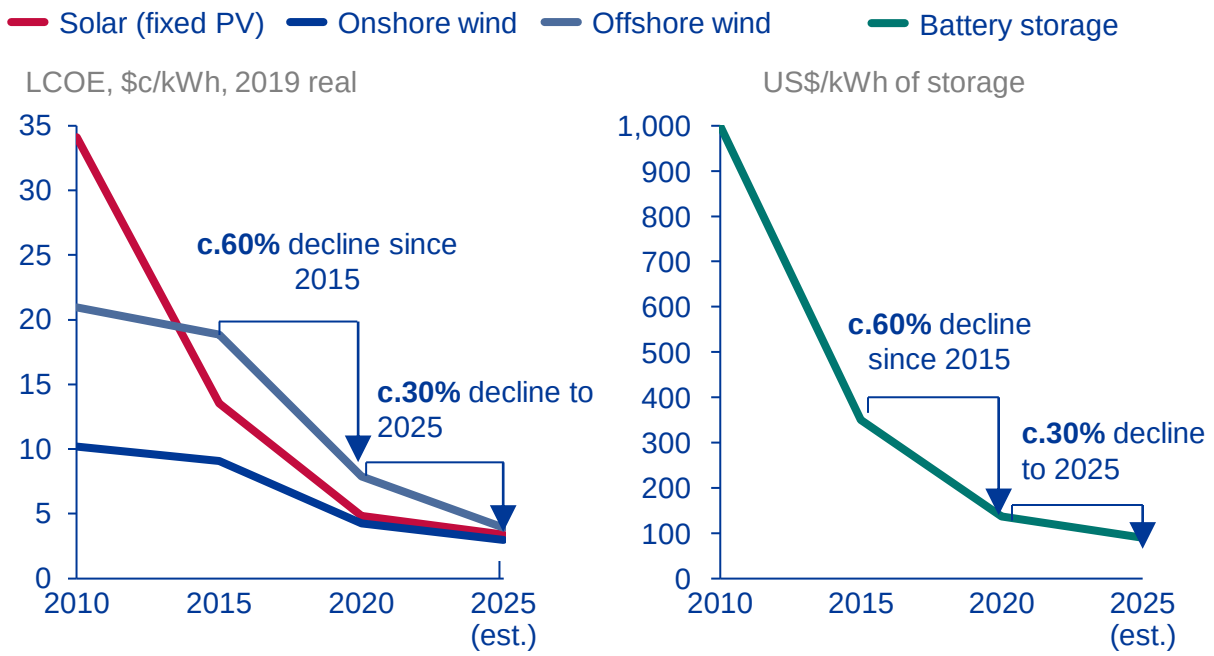
A multi-stakeholder Presidential Climate Commission (PCC) has been established to identify pathways for a just transition across all sectors and ensure buy-in from all stakeholders

The electricity sector is the quickest and cheapest to decarbonise, and will enable decarbonisation across the economy



The cost competitiveness of renewable technologies, access to green financing and the vulnerability of South Africa, presents the opportunity to address the threats

Solar, wind & battery costs saw c.60% declines past 5 years



Investors scaling up investment in SDG-related assets and clean energy

US$ 40.5 trillion

Total global ESG assets under management in 2020

US$ 1 trillion

Total global green bonds; record $269 bn issuance in 2020

Standard Chartered

Committed US$ 35 bn for clean tech and renewables

HSBC

committed US$ 100 bn for clean energy, low-carbon tech and SDGs

BNP PARIBAS

Ear-marked EUR15 bn for renewable energy investments

Numerous counterparties have indicated interest to support the Eskom JET

"As discussed, we are interested to support Eskom on this important agenda"

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"…we would like to express our interest to support Eskom in the repurposing of such coal fired power stations…"

KFW
Bank aus Verantwortung

"AFD is keen to accompany Eskom in the decommissioning and repurposing of some of its coal fired power stations…"

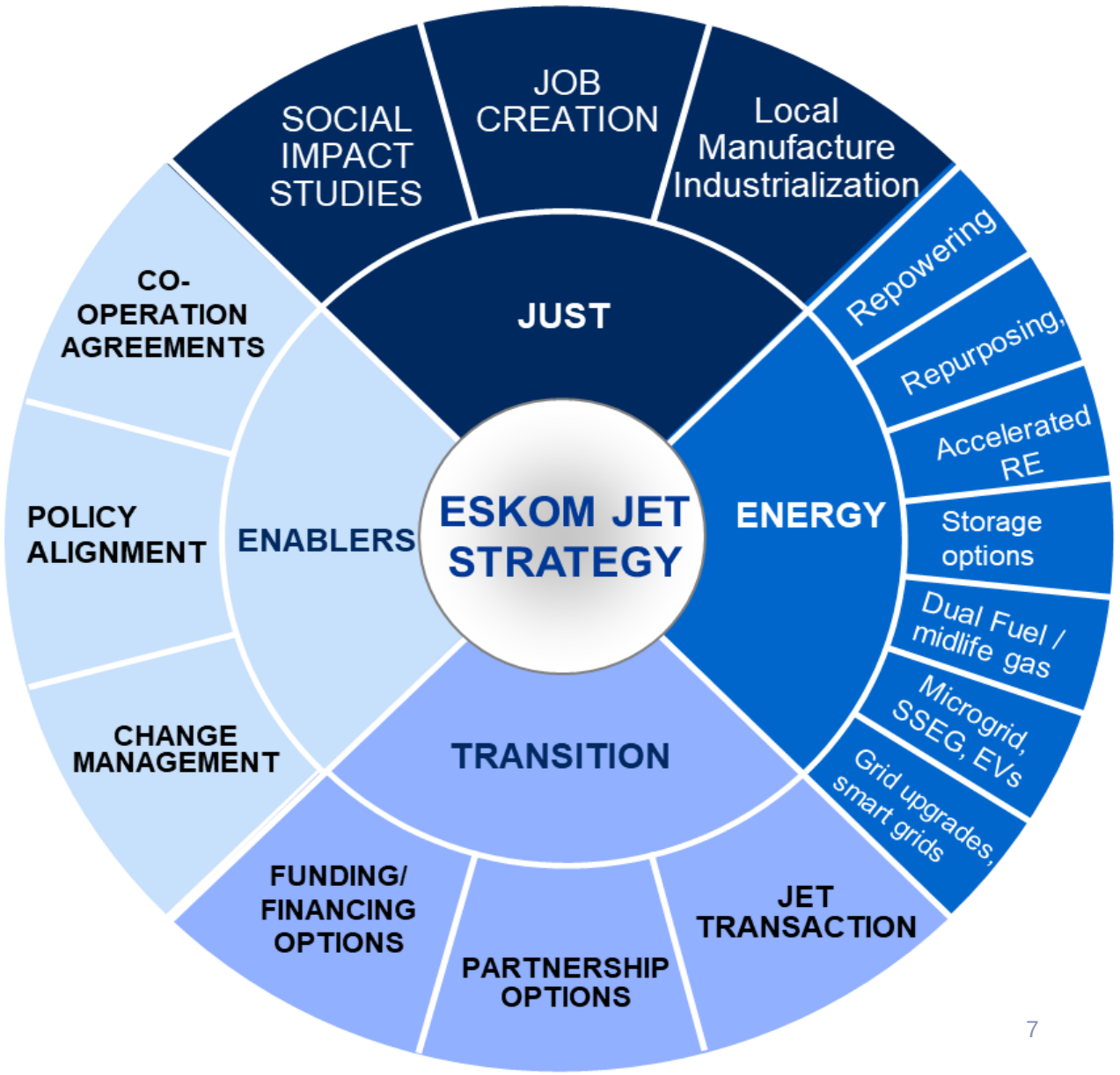
AFD
AGENCE FRANÇAISE DE DÉVELOPPEMENT

"…setting a clear timeline of our joint work on this project would be beneficial for both NDB and Eskom to understand expectations of the parties"

New Development Bank

Source: Discussion Materials | ESG Considerations, Goldman Sachs International, April 2021; Source: BNEF, IEEFA Asset managers leaving coal, IEEFA Finance leaving coal
"Energy smart technologies" includes smart grids, demand response, and energy storage.

Eskom's JET strategy will focus on elements in four main areas over the next 5 years to drive the net zero emissions and social impact goals



Just: *Doing better for people and the planet, Growing localisation and industrialisation*

Energy: *Cleaner, sustainable electricity provision*

Transition: *Transformational change of business models, attracting green financing*

Enablers: *Collaboration across constituencies*

A just transition pathway, starting with the electricity sector will achieve multiple objectives at the same time

1	**Repowering and repurposing old coal plant** as they are shutdown
2	**Accelerating the transition to renewable energy**, improving the carbon profile of industries and retaining competitiveness
3	Accessing **highly concessional finance for Eskom**, given constrained balance sheet
4	**Minimising the impacts on key sectors of the economy (coal)** and supporting communities
5	**Creating jobs and opportunities for localisation** and inclusion
6	**Contributing to reindustrialization and stimulation of South African manufacturing sector**
7	Contributing to **development of black/women industrialists and community-based ownership**

Eskom's Just Energy Transition (JET) financing facility

Eskom's JET Financing Facility

Concept description:

To enable and accelerate the Just Energy Transition from coal to other forms of electricity generation, we propose:

- **a multi-tranche, multi-year facility**, funded by a **multi-lender syndicate**
- The Facility will provide **concessional funding** to JET projects in the Republic of South Africa on a **"pay for performance"** basis
- The funds will be advanced as **progress payments** for **different stages of various projects**

Numerous counterparties have indicated interest to support the Eskom JET Financing concept

Eskom's JET plans are the most developed that we have seen worldwide

WORLD BANK GROUP

Eskom JET work has been important for focusing the minds on what work needs to be done

Eskom's JET work provides an important platform for us to engage

The Eskom JET work is being discussed by our capitals

Commitments and parties to an Eskom JET financing agreement

Commitment to:

- NDC targets
- Enabling policies for **energy transition and decarbonisation**
- Enabling policies for **reskilling and training of workers**, promoting the establishment of manufacturing and service industries associated with renewable energy, and promoting **small business development** for vulnerable sectors – **ensuring gainful employment**

Commitments to:

- **Social uplitfment, local manufacturing and reindustrialisation**
- **Decarbonisation** and shutdown of coal plant
- **Building cleaner** plant
- **Grid expansion** and strengthening
- **Unbundling** of Eskom

Provides concessional financing to RSA Government and Eskom

- For **Grid expansion**
- Coal plant **repowering and repurposing**
- Greenfields, lower carbon development
- **Reindustrialization and local manufacture** efforts
- Social uplitfment and job creation

What will this facility by us? Eskom has identified a pipeline of projects in support of its Just Energy Transition Strategy

Shovel-ready projects

Generation

Prioritised capacity opportunities and associated funding required

Project	MW	Cost Estimate [1] (Rm)	Timing
Komati PV	100,00	2103 - 3155	12-18 months
Komati Gas*	1 000,00	15300	24-48 months
Sere PV	600,00	8323 – 12485	18-48 months
Kleinzee	300,00	5067 – 7601	12-24 months
Aberdeen	200,00	3581 – 5371	24-26 months
Majuba PV	65,00	838 – 1258	12-24 months
Tutuka PV	65,90	845 – 1274	12-18 months
Arnot PV	17,00	222 – 334	12-18 months
Duvha PV	23,50	304 – 456	12-18 months
Lethabo PV	75,00	968 – 1452	12-18 months
Olyvenhouts drift PV	550,00	7700 – 11250	12-18 months
Other wind*	100,00	1992-3500	TBD
Microgrid*	1 400,00	60200	6-12 months
RBay gas*	3 000,00	70000	24-60 months
Komati Battery storage	244 MWh	3360 – 5039	12-18 months
Total funding required		180 809 – 198 975	

Distribution

- **Strengthening of critical corridors** on the Distribution grid to enable connections of IPP's, Distributed Energy Resources (DER) **(R30bn)**
- Rollout of **micro grid solutions to electrify 13% of the population (R15bn)** to deliver against government's electrification programme
- Enable **bidirectional energy management and flexibility**, facilitate an inverted energy economy

Transmission

- Deliver at least **8000 km of transmission grid (R120bn)** expansion to connect new capacity in line with IRP and accelerated shutdown
- Construct 12 substations across four provinces (Northern Cape, Western Cape, Eastern Cape and Free State)
- Install 110 **transformers** to deliver network strengthening requirements up to 2030

Grid strengthening, in the Northern and Eastern Cape provinces, is a key enabler for the roll-out of new renewable capacity in these areas. Repurposing and repowering will allow for optimisation of grid capacity in Mpumalanga.

Note: 1 - Cost estimates provided are for projects in development and may change as the projects move through various funding gate stages of the project life cycle model (PLCM).

Komati Power Station will be our flagship demonstration of the JET

Komati Power Station has served South Africa since 1961

With Komati's last coal-fired unit set to be shut down in 2022, the **Komati repowering and repurposing programme offers many opportunities**

- Offers the unique opportunity to pilot the repowering of a station on existing Eskom land.
- We have begun to **install an Agrivoltaics and a Microgrid assembly plant**.
- We have completed the engineering studies to confirm the capacities of **PV, Wind and Battery that we will install in the coming months**

Agrivoltaics

Containerised microgrid