



Transmission Development Plan 2021 – 2030

CESA Presentation

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Basis of the TDP 2020



The TDP 2020 was formulated to address the following



Attain Grid Code compliance by resolving both substation and line violations (N-1) to ensure network sustainability



Determine new network infrastructure requirements to sustain and allow for future demand growth



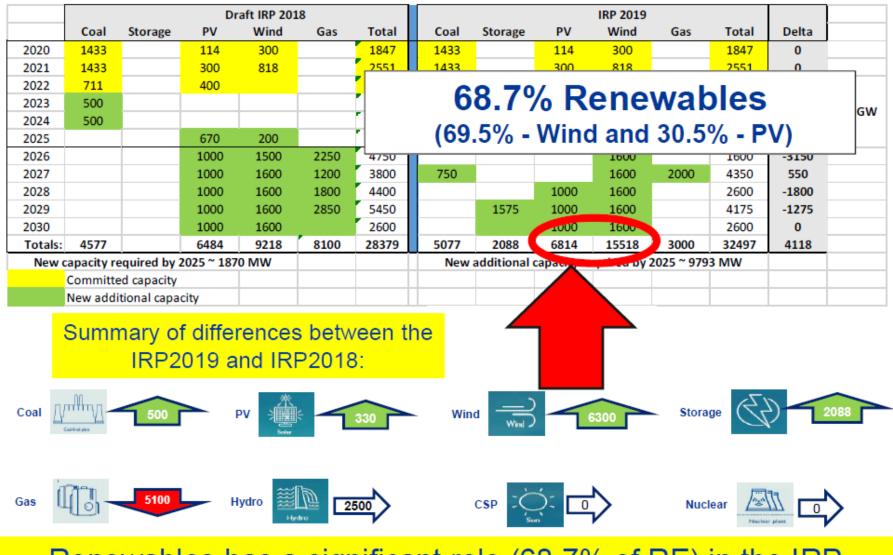
Determine network infrastructure requirements to integrate new generation (Eskom and IPPs)



Consider asset replacement requirements to ensure reliability of supply and network optimisation

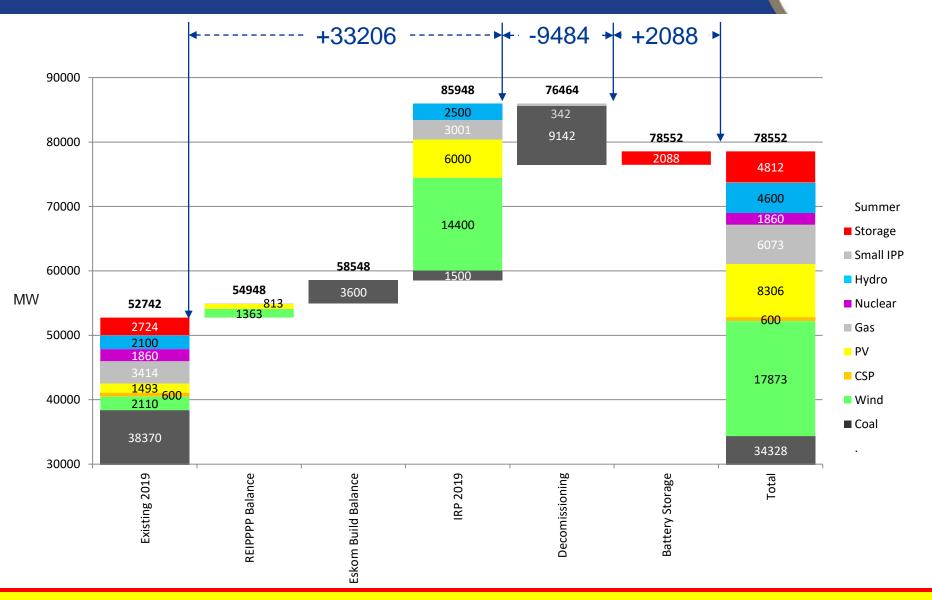
Generation comparison: IRP2019 vs IRP2018





Renewables has a significant role (68.7% of RE) in the IRP

Generation build-up graph

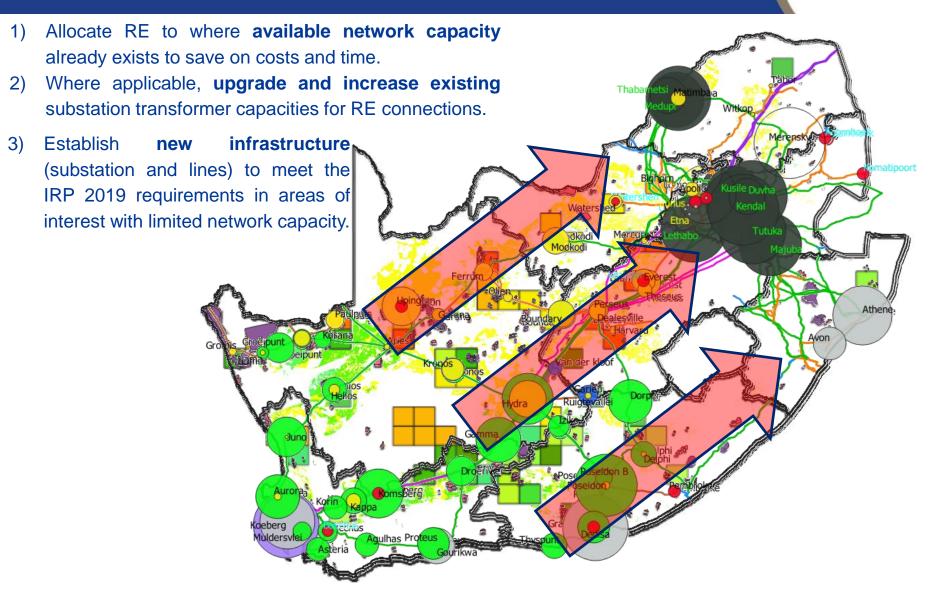


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Required Grid Integration +35294MW

Spatial Allocation Considerations

Eskom



DEA/CSIR Wind & Solar

EIA & Applications

Future IPP interest

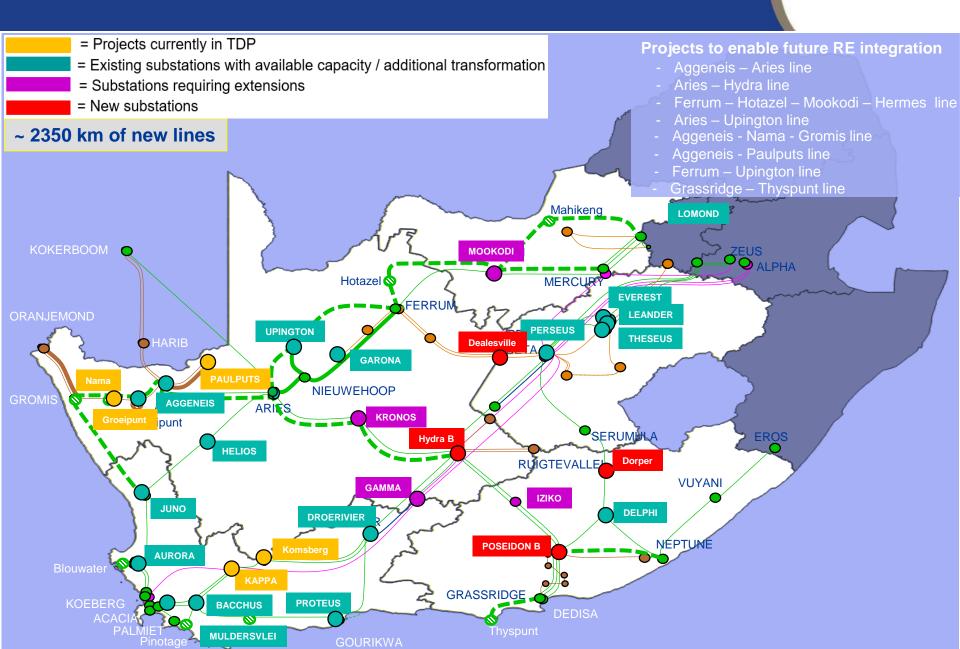


Summary of New

Infrastructure Requirements

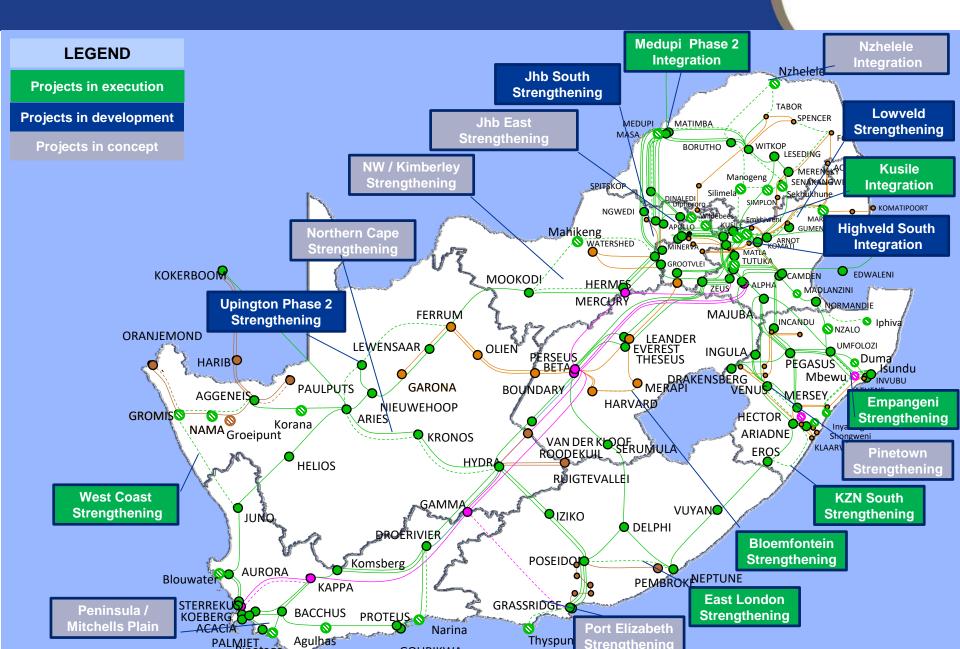
Transmission integration plans for the IRP 2019

() Eskom



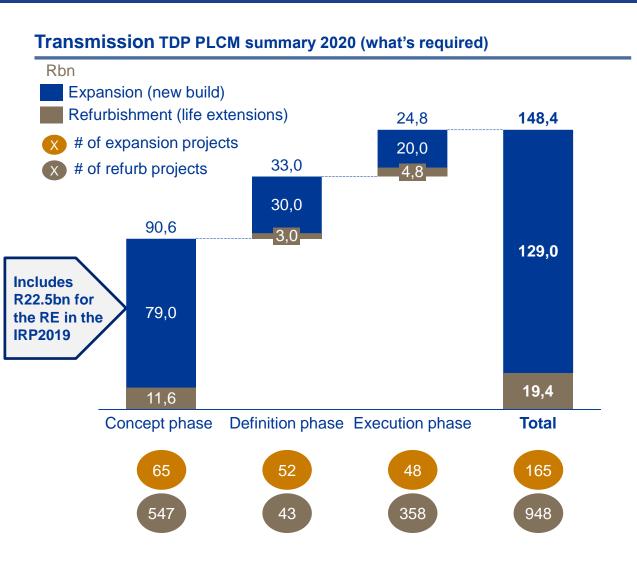
Major Projects planned in the TDP period

Eskom



TDP 2020 Project Life Cycle Model (PLCM) summary





Challenges / Actions:

Key Challenges:

- Capex constraints
- Servitude acquisitions
- Supplier and construction capability

Actions taken:

- Prioritisation of the project portfolio
- Maximise of available capex
- Re-align the plan taking into consideration the key challenges
- Developed a realistic and achievable plan

Summary of Transmission infrastructure requirements over the TDP period



Transmission Assets	New Assets expected	New Assets expected	Total New	
Nationally	2021 - 2025	2026 - 2030	Assets	
Power lines (km)				
765 kV	396	1592	1988	
400 kV	4230	1966	6196	
275 kV	63	9	72	
Total length (km)	4689	3567	8256	
Transformers				
Number of units	62	49	111	
Total capacity (MVA)	29220	23655	52875	



Transmission Assets	New Assets expected	New Assets expected	Total New	
Nationally	2021 - 2025	2026 - 2030	Assets	
Power lines (km)				
765 kV	76	762	838	
400 kV	2609	2132	4741	
275 kV	29	43	72	
Total length (km)	2714	2937	5651	
Transformers				
Number of units	31	52	83	
Total capacity (MVA)	15010	26 585	41595	

Based on the revised and "realistic" Plan ~ R87bn





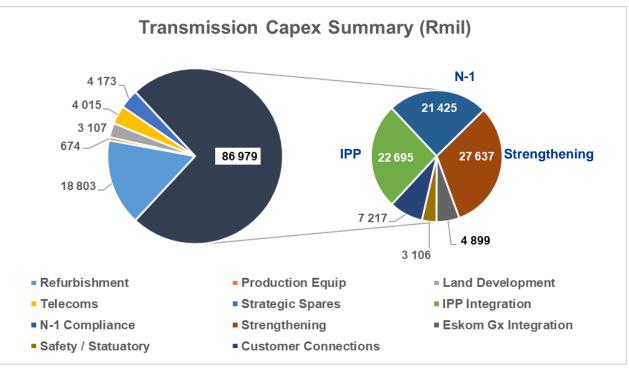
TDP 2020 Capex Analysis

Transmission 10 year CAPEX Plan: FY2021 - 2030



Summary of Transmission Capex Plan (R Million) FY 2021 – 2030 (after considering the key challenges faced)

Transmission Capex Categories (Rmil)	Total FY21- FY30
Capacity Expansion	86 979
Refurbishment	18 803
Production Equipment	674
EIA & Servitude	3 107
Telecoms	4 015
Strategic Spares	4 173
	117 751



Notes: 1) The TDP 2019 and MYPD4 was based on the draft IRP20182) The IRP2019 requires an accelerated execution plan especially in the next 5 years

Risk and challenges

- Future determinations on the MYPD applications may impact Eskom's revenue stream and hence the execution of the TDP.
- Eskom's liquidity position could result in further restrictions to capex allocations across all Division.
- Servitude acquisitions remains a huge challenge and we appeal for support to all concerned (Local and National Authorities, land owners, developer etc.) to come together to resolve this challenge
- Transmission's infrastructure for the IRP2019 to integrate ~ 30GW of new capacity would require an acceleration to the execution programme, hence placing huge demands on limited resources across the value chain (including suppliers and construction industry)



- The success of the TDP 2020 requires a concerted effort by all role players including our stakeholders in Government, Customers, the various RE associations, as well as the supplier and construction industry across the value chain.
- In closing I wish to emphasize that our role in Transmission is to provide an open and transparent access to the power system.



Questions?