Eskom's long-term coal strategy

14th Annual Southern African Coal Conference (2019)

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Date: 31 January 2019

Agenda

- What is the long term outlook for coal?
- Dissecting the coal requirements per power station
- Navigating key uncertainties
- Pillars supporting Eskom's long-term coal strategy

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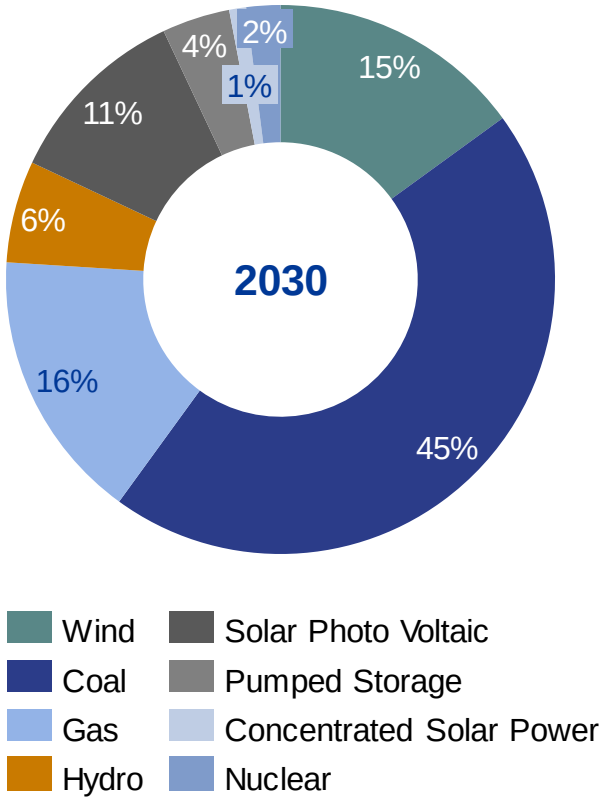
The IRP 2018 recommends a least-cost option

Generation capacity by 2030 (IRP 1)



Key takeaways for Eskom's coal fleet

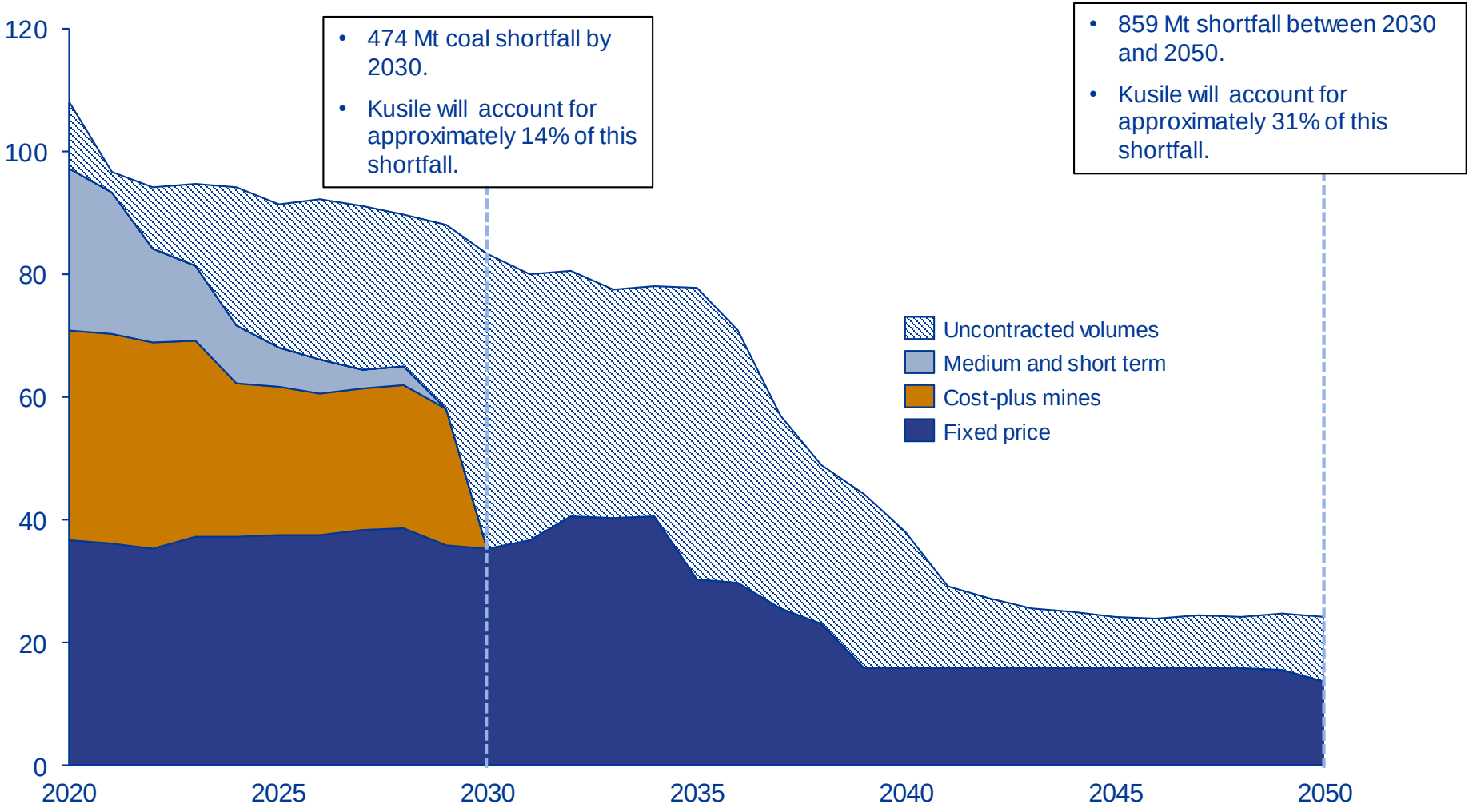
- By 2030, Eskom's coal-fired generation capacity will reduce by 30% of its current installed capacity.
- The IRP 2018 assumed a 50 year life of plant for existing and committed Eskom coal fleet.
- To accommodate renewables, coal-fired power stations must be modified to synchronous generators
- The IRP did not investigate the full impact of the decommissioning of the coal-fired stations. The impact of security of supply versus decarbonization of the economy is something that must be understood fully and requires a comprehensive investigation.

A least-cost option and 'just transition' will not necessarily remedy the coal supply issues. There remains considerable scope for new coal mine investments and long-term coal supply agreements

Source: Department of Energy (DoE)

A projected coal shortfall of 1.33 Billion tonnes is expected until 2050 (excluding any investments in the cost-plus mines)

Projected coal demand (Million tonnes)



Source: Draft 11 Year ProdPlan F2019-2029_MYPD4 7percDxLosses78percEAF 01 Aug 2018 and 2018 draft IRP: Policy Adjusted Plan

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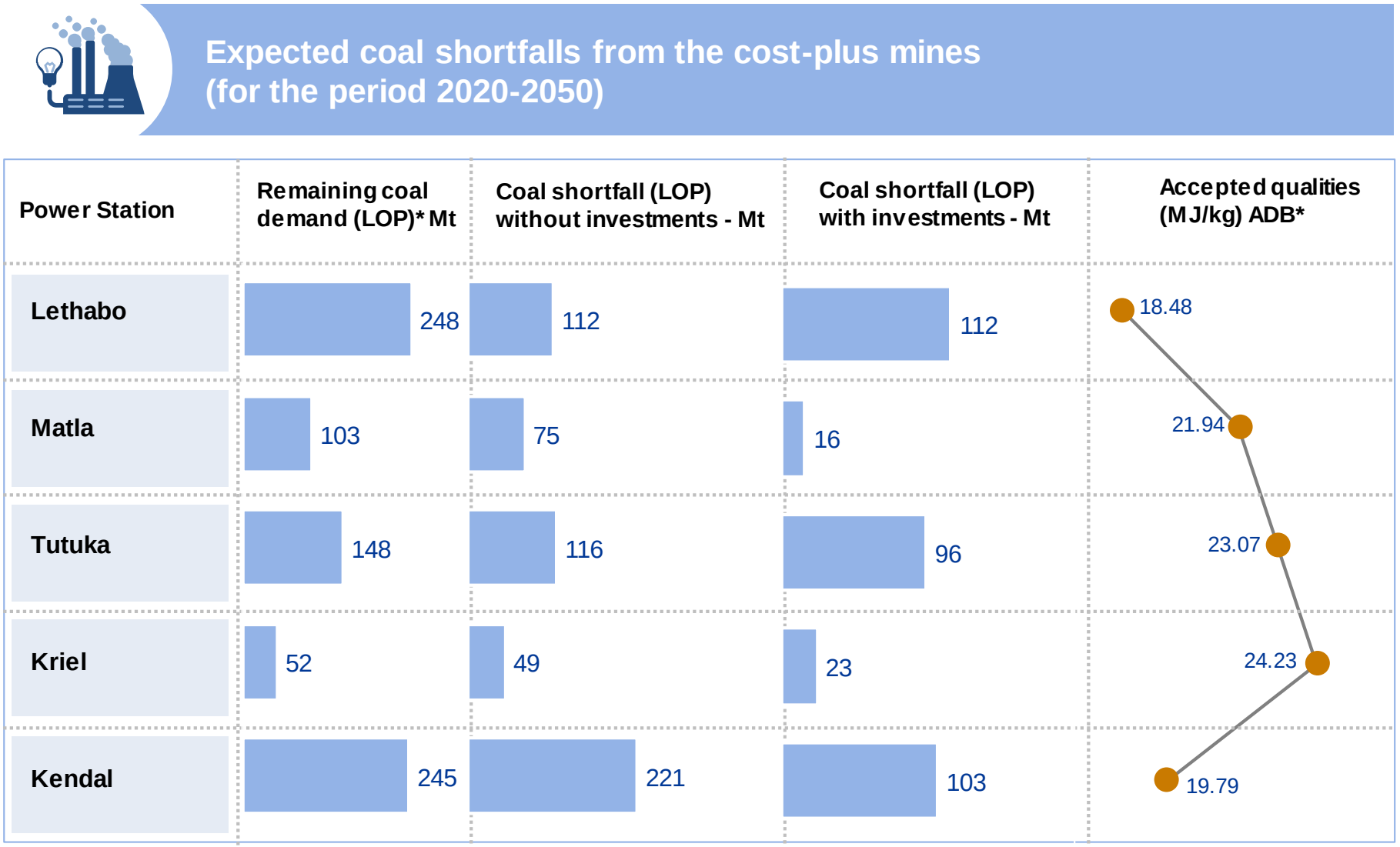
Eskom's power stations face major coal supply challenges

Expected coal shortfalls from the cost-plus mines (for the period 2020-2050)

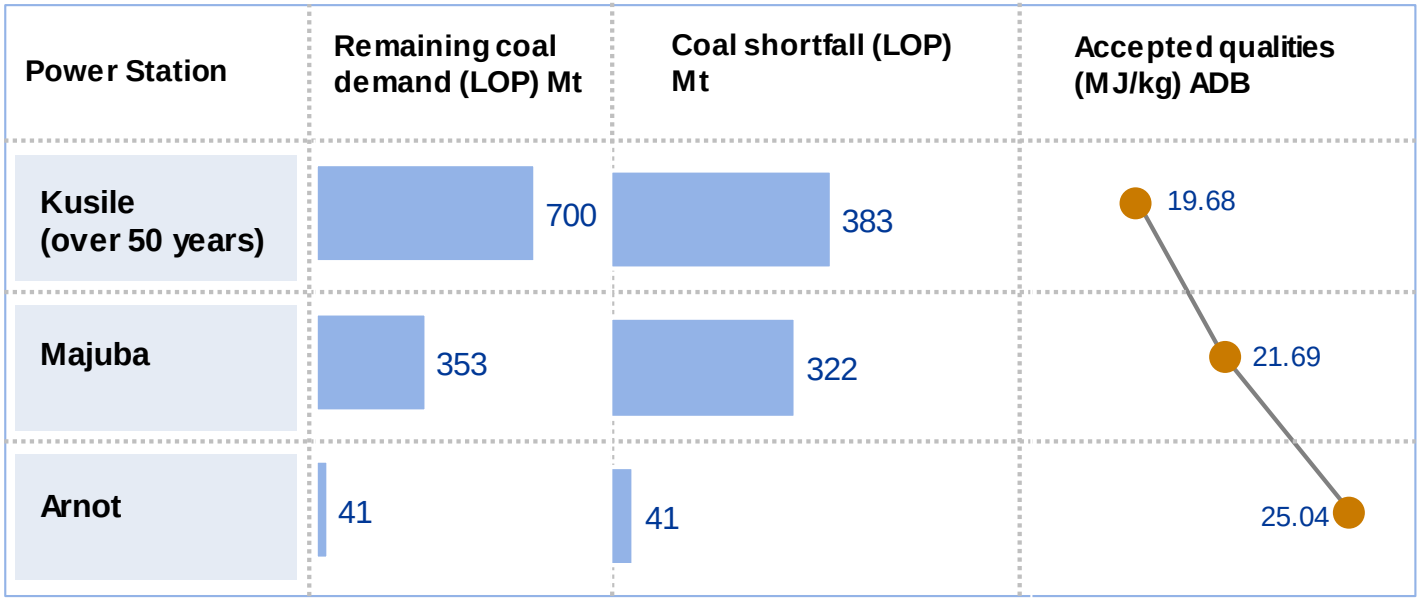


Source: Eskom internal analysis

*LOP: Life of Plant
ADB: Air-Dried Basis

Eskom's power stations face major coal supply challenges (continued)

Expected coal shortfalls from power stations with no long-term contracts or cost-plus mines (for the period 2020-2050)



Over **30 years**, the cumulative shortfall is equivalent to approximately **10 coal mines** with a production capacity of **5 million tonnes per annum.**

Source: Eskom internal analysis

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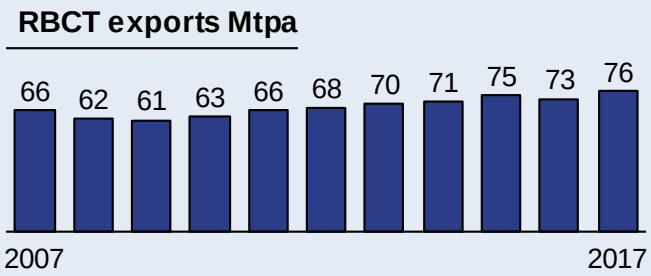
Challenges to the South African coal industry

Background

- The coal industry in South Africa is the fulcrum for other industries such as electricity, manufacturing, construction, finance etc.
- In 2017 saleable coal contributed R123.2 billion and accounts for 81,962 direct jobs and c.170,000 indirect jobs.
- In addition to domestic sales, export sales account for between 40% and 45% of total sales in South Africa. Total exports were valued at R50.5 billion in 2016 of a total sales figure of R 112 billion. Coal is therefore and important foreign exchange earner.



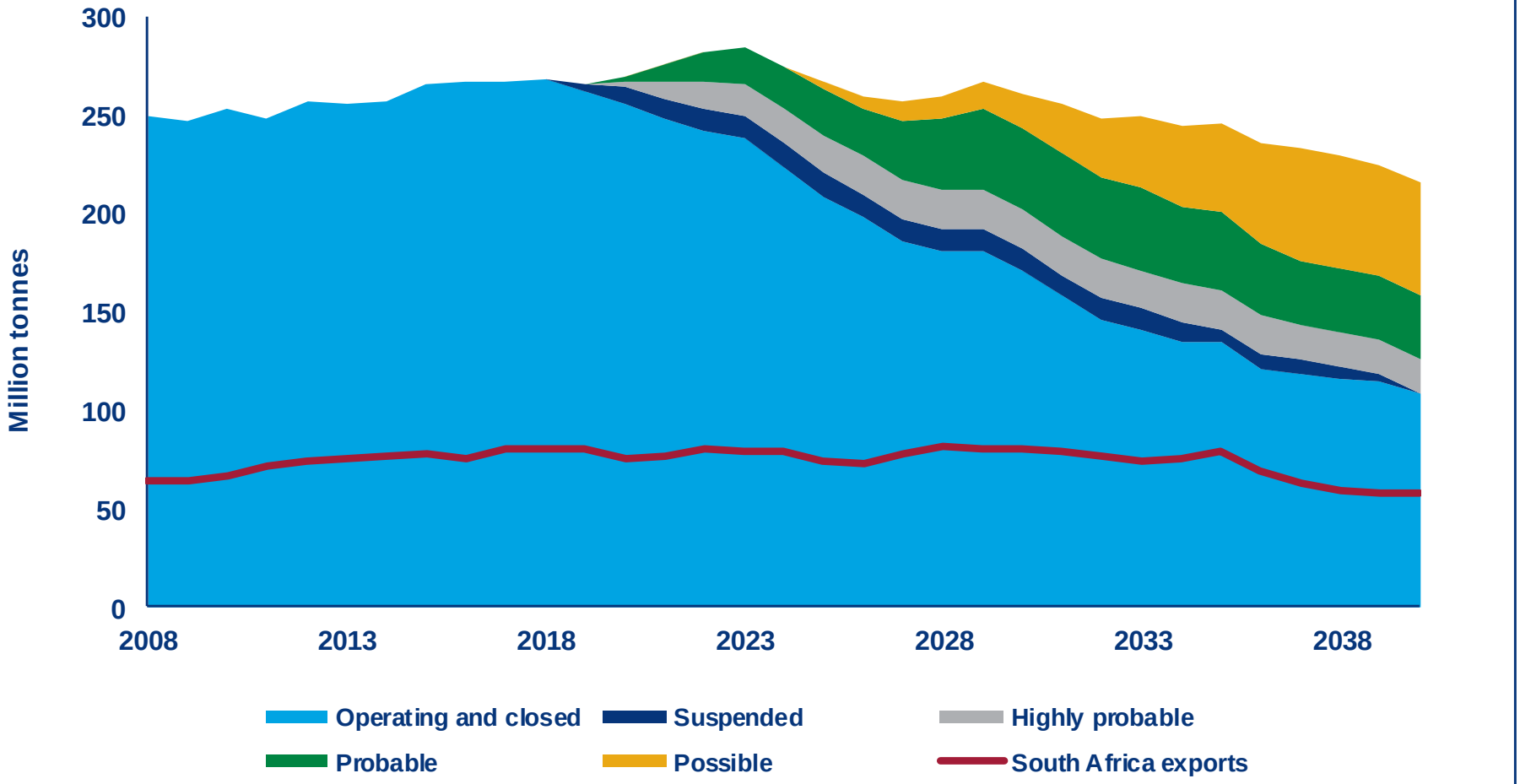
But…

- The South African government has ratified the Paris Agreement and is committed to addressing the woes of climate change.
- Stricter environmental laws, however, would impact the following sectors:
  - Electricity
  - Liquid Fuels
  - Basic iron and steel industry.
- Combined, these three industries, account for more than 80% of domestic coal demand in terms of value and 70% in terms of volumes.
- Constraints to the growth of South African coal industry will come from:
  - Policy and regulatory factors
  - Access to capital
  - Inadequate infrastructure
  - Pace of innovation in clean coal technologies
  - Access to land

Source: Mining Review Africa, Issue 3, 2018; Minerals Council

Growth in South Africa's coal production will be geared towards domestic power station thermal coal and export demand.

Marketable production (by mine status) and exports



Source: Wood Mackenzie

Eskom is navigating a dynamic coal environment with many challenges to manage

Coal **supply shortfall** at several power stations with long term contracts coming to an end

Flexibility in coal procurement to match older power stations production ramp down

Persistent rising coal mining costs above inflation and the influence of the export prices on the domestic market

Increased pressure from local communities for **localization of Eskom** goods and services procurement

Competition by the export market for **Eskom grade coal** within the 4200-5500kcal range

Growing **Renewable Energy** sector disrupting Eskom's business model and no demand growth

Lack of new mining investment in large scale coal mines and execution of current mining rights

Investors and Funders migration away from coal technology**.** Signal - **disinvestment** in the South African coal industry by multinationals

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- **Pillars supporting Eskom's long-term coal strategy**

Summary of pillars supporting Eskom's long-term coal procurement strategy

Eskom's **Long-term coal strategy**, which has recently been revised, reverts back to **dedicated long-term coal con**tracts, with a **preference** for coal delivered on **conveyors**.

1. **Cost plus contract extension** to match power stations life and utilize the dedicated coal reserve for supply to other power station
2. **Reinvestment in cost plus mines** to enable contractual supply and more
3. **Extension of existing long term fixed** price contracts for designated power stations and options to supply other power stations
4. **Coal Open Tender** to source uncontracted coal for the remaining life of power stations
5. **Transnet to provide rail solutions** for Eskom on Build, Own, Operate basis –Eskom to focus on core business (generation and supply of electricity).

Procurement processes are underway to alleviate the projected coal shortfall and implement the long-term coal strategy

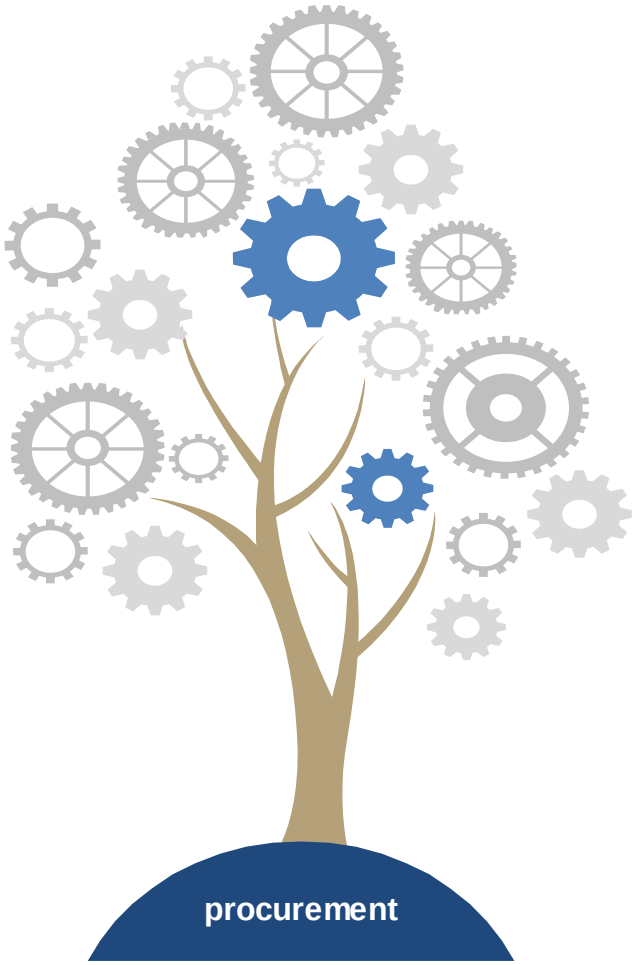
Ongoing procurement

- Life extension of the Cost-Plus and Fixed-Price long-term contracts is in progress.
- New contracts are also in the pipeline to supply additional coal.

Planned procurement

- Eskom is expected to issue tenders the market to request proposals for the supply of coal:
  - RFP issued in **January 2019** for Arnot Power Station for approximately **50Mt** over the next 10 years
  - Over **the course of 2019** for Kendal, Kriel, Majuba, Matla and Tutuka power stations for a requirement of approximately **800Mt** over the next 20 years.
- The strategy to support this procurement is currently going through the internal governance approval process

Creating an environment that is conducive for coal procurement



- Eskom's ability to send a strong signal to procure coal on long term basis to achieve prices projected in the corporate plan.
- Availability of capital funding for investment in cost-plus mines
- Clear and transparent governance
- Symbiotic relationship between the domestic and export market
- Transformation objectives aligned to the Mining Charter and PPPFMA.
- Clear understanding of coal requirements (volumes and qualities per power station).
- The NERSA tariff determination based on market cost of mining and coal prices.
- Policy and legislation certainty to stimulate investment in new coal mines.

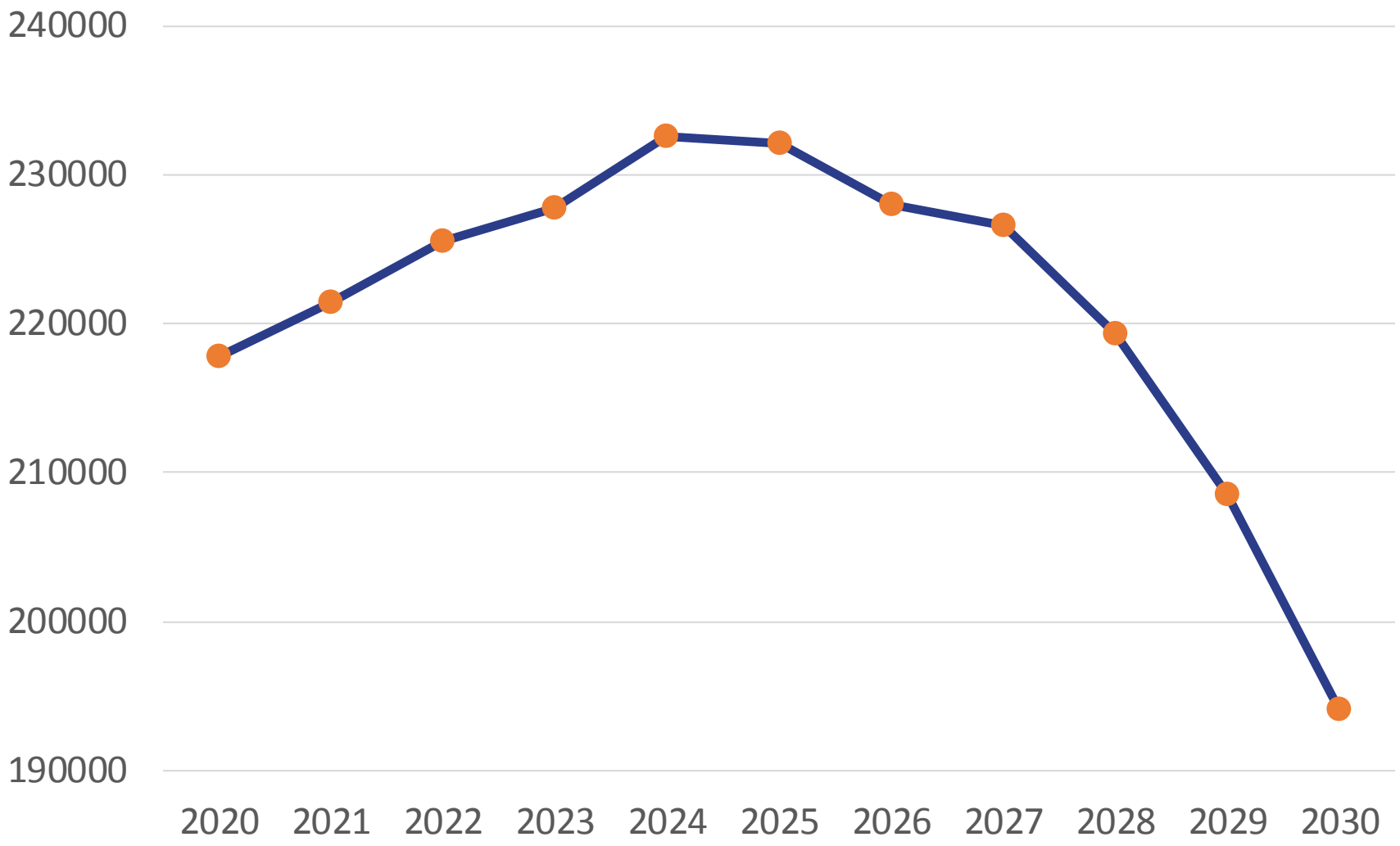
Backup slides

Coal shortfall and decommissioning dates for Eskom's coal-fired power stations

Power station	Remaining coal demand (LOP) Mt	Coal shortfall (LOP) (without investments) Mt	Coal shortfall (LOP) (with investments) Mt	Long contract end date	Decommissioning start date
Arnot	41.1	41.1	41.1	No long term	September '21 - August '25
Duvha	85.5	0.0	0.0	2034	August '30 - February '34
Hendrina	0.0	0.0	0.0	No long term	May '20 - December '26
Kendal	245.0	221.4	103.2	2034	October '38 - December '43
Kr123	23.4	23.4	23.4	Dec-19	May '26 -November '29
Kr456	28.4	25.1	0.0	Dec-19	May '26 -November '29
Majuba	352.9	318.8	321.6	No long term	April '46 - April '51
Matla	103.1	74.5	15.5	Dec-23	August '29-July '33
Tutuka	148.3	116.1	95.6	Dec-29	June '35-June '40
Camden	1.9	0.0	0.0	No long term	July '20 - July '23
Grootvlei	0.0	0.0	0.0	No long term	April '25 - September '28
Komati	0.0	0.0	0.0	No long term	January '24 -February '26
Kusile	445.1	379.7	383.3	No long term	December '50
Lethabo	248.3	112.0	112.0	2032	December '35 - December '40
Matimba	251.2	0.0	0.0	2038	December '37 - October '41
Medupi	474.4	0.0	0.0	2058	December '50

Source: Eskom internal analysis

Projected electricity demand from Eskom's coal-fired fleet (GWh)



Source: Eskom internal analysis