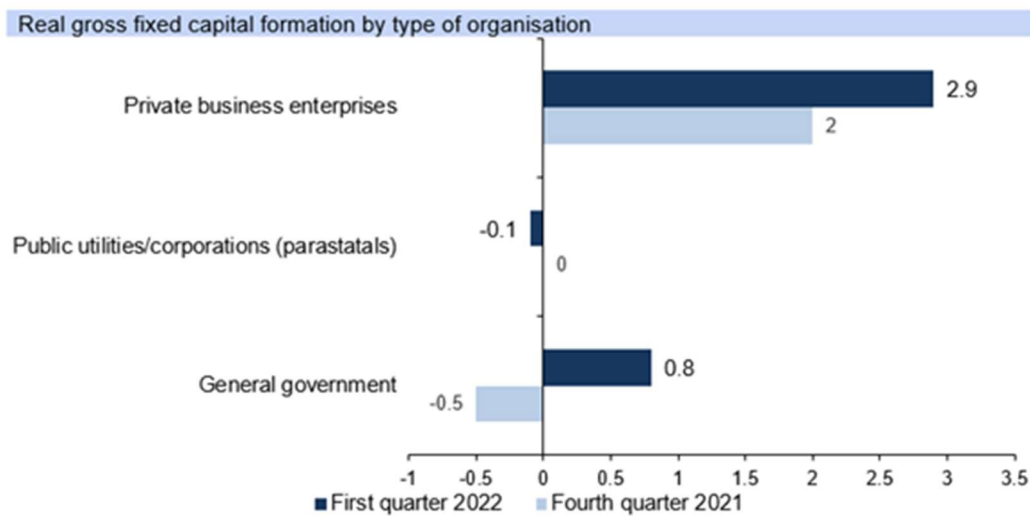




# SA Economics

Thursday 30 June 2022

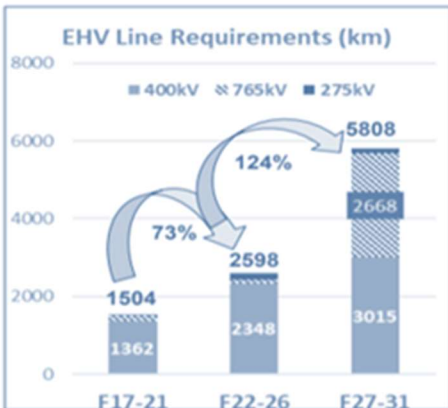
Fixed investment note: rapid removal of red tape in electricity sector needed that crowds in private sector renewable energy



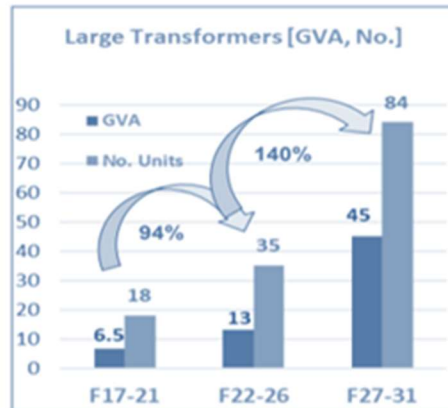
Source: Quarterly Bulletin Q2.22

**Summary of Transmission infrastructure requirements over the TDP period 2022-2031**

~ 8406 km of line:



~ 119 transformers ~ 58 GVA:



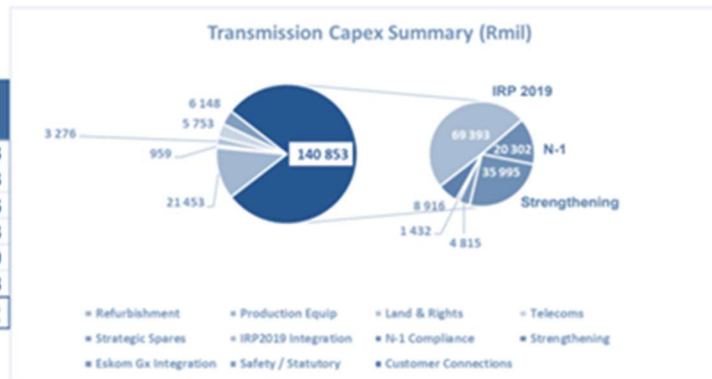
- Compared to the previous 5 years: 73% increase in line construction  
94% increase in transformer units
- The following 5 years (FY27 – FY31): 124% increase in line construction  
140% increase in transformer units

Source: Eskom

**Transmission 10-year CAPEX Plan: FY2022-2031**

Summary of Transmission Capex Plan (R Million) FY 2022 – 2031

Transmission Capex Categories (Rmil)	Total FY 22 - FY30
Capacity Expansion	140 853
Refurbishment	21 453
EIA & Servitudes	3 276
Telecommunications	5 753
Production Equipment	959
Strategic Spares	6 148
<b>Total</b>	<b>178 442</b>



Source: Eskom

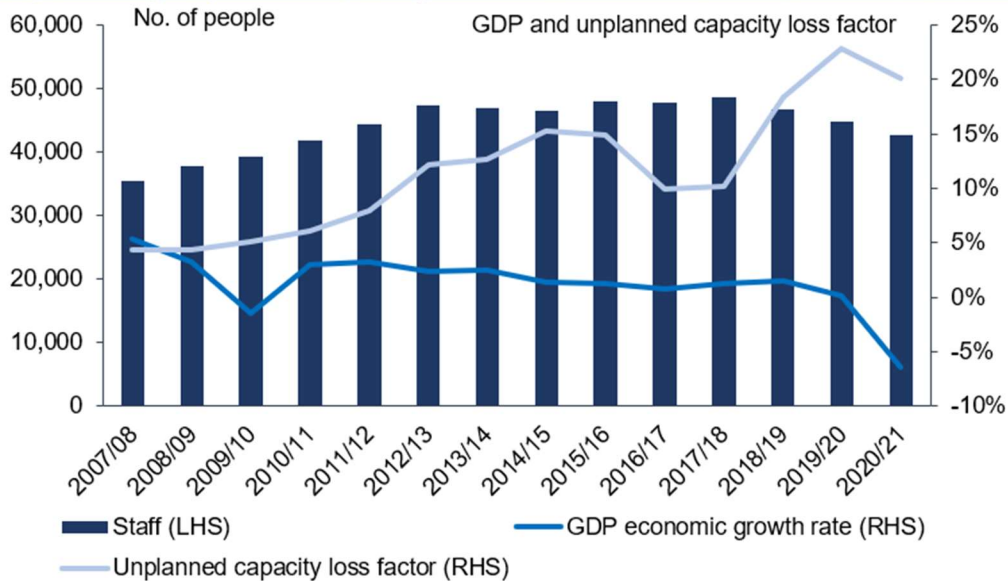
**Transmission national forecast 2022-2031**



- 1. Historical System Peak Demand flat as a result of constrained generation capacity
- 2. Various forecast scenarios informed by customer applications and market intelligence
- 3. IRP forecast significantly higher
- 4. Grid Notified Maximum Demand (NMD) increased over the period and is forecasted to increase

Source: Eskom

**Unplanned capacity loss factor, GDP growth and Eskom staff numbers, 2007/08-2020/21**



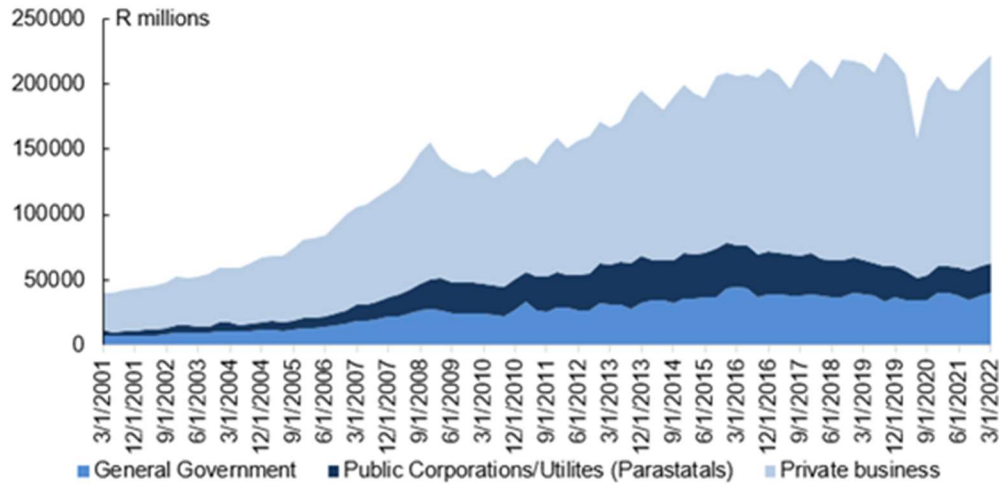
Source: CRA

- South Africa’s temporary institution of stage 6 load shedding has partly been a result of a lack of planned maintenance and repairs due to unlawful strike action from a number of Eskom employees, but the capacity shortages leading to load shedding overall run much deeper.

- Already on Sunday (26<sup>th</sup> June) Eskom warned that 3 894MW was on planned maintenance, 15 472MW was unavailable due to breakdowns, and 600MW was unavailable due to a line fault in Mozambique's Hydroelectrica de Cahora Bassa (HCB).
- Adding to this then, 4000MW was at risk due from the illegal strike action with Eskom warning that "protracted strike actions may lead to further damage and prolonged delays to returning units to service, ... compound(ing) an already constrained power system".
- Eskom is expected to continue load shedding – alternating between stages 2 and 4 through the weekend, although any further damage to production capacity, including sabotage, vandalism or theft of infrastructure (including cables) would likely switch SA back to stage 6.
- While the recent few days of temporary periods of stage 6 load shedding will have a negative impact on Q2.22 GDP, as will the earlier periods of below stage 6 on economic activity over Q2.22, it is not enough to cause concerns about credit rating downgrades yet.
- Credit rating agencies essentially focus on the likelihood of debt repayment, and so the factors which influence revenue, expenditure and borrowings metrics, as well as projections for these in assessing creditworthiness, and so assigning credit ratings.
- Factors which determine the metrics the rating agencies watch include economic growth, and so electricity supply, but also include the impact of wage settlements on expenditure, with above inflation wage increases damaging the consolidation of state finances.
- Eskom has come from decades of insufficient capacity expansion, and particularly in the last decade this has been compounded by insufficient maintenance and repair causing load shedding, with aging power stations also prone to more breakdowns and less output.
- It is imperative SA transitions rapidly away from coal to renewable energy and cuts out all the regulations prohibiting the private sector from fully and swiftly taking part in electricity generation (and transmission), a sea change likely need ingto be effected by the President.

Please scroll down to the second section below

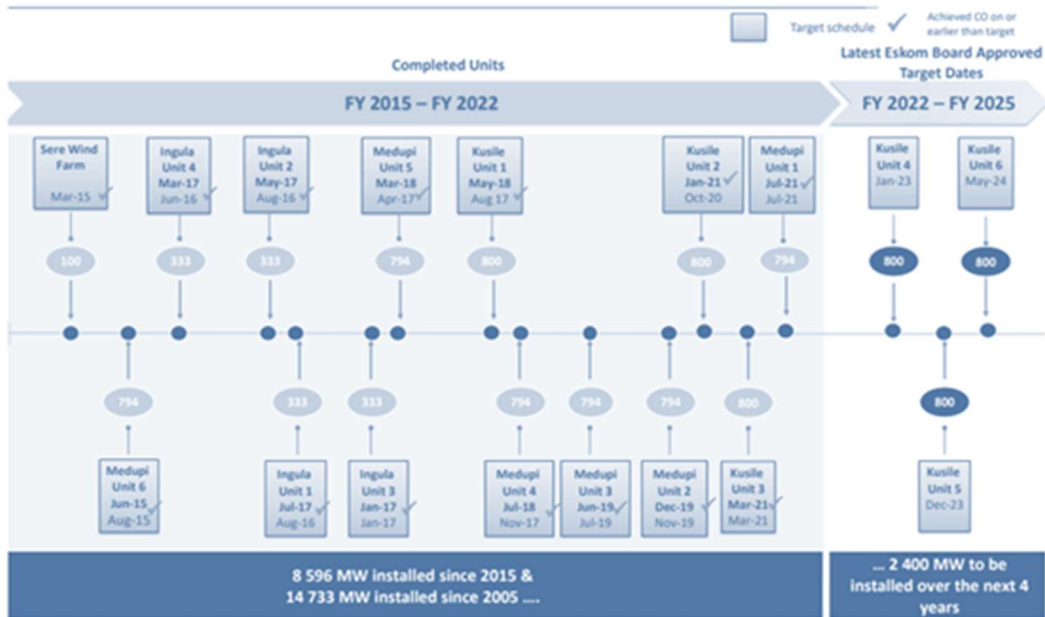
### Nominal gross fixed capital formation by type of organisation



Source: Quarterly Bulletin Q2.22

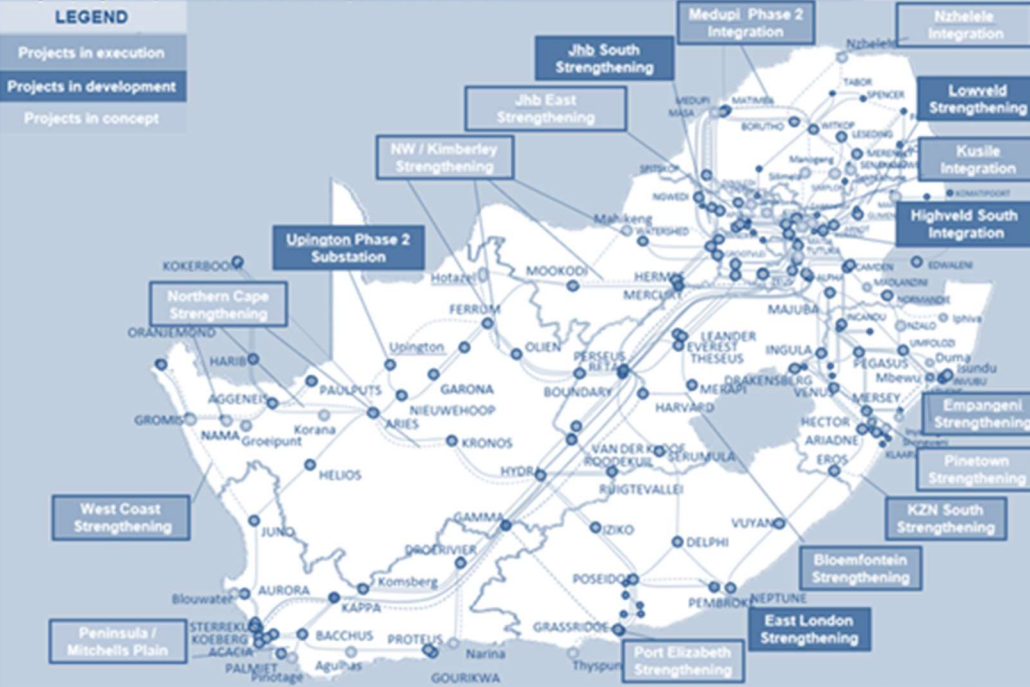
### Status of GCD New Build Programme (inception to date)

Focus is on bringing new capacity online and driving plant defect corrections



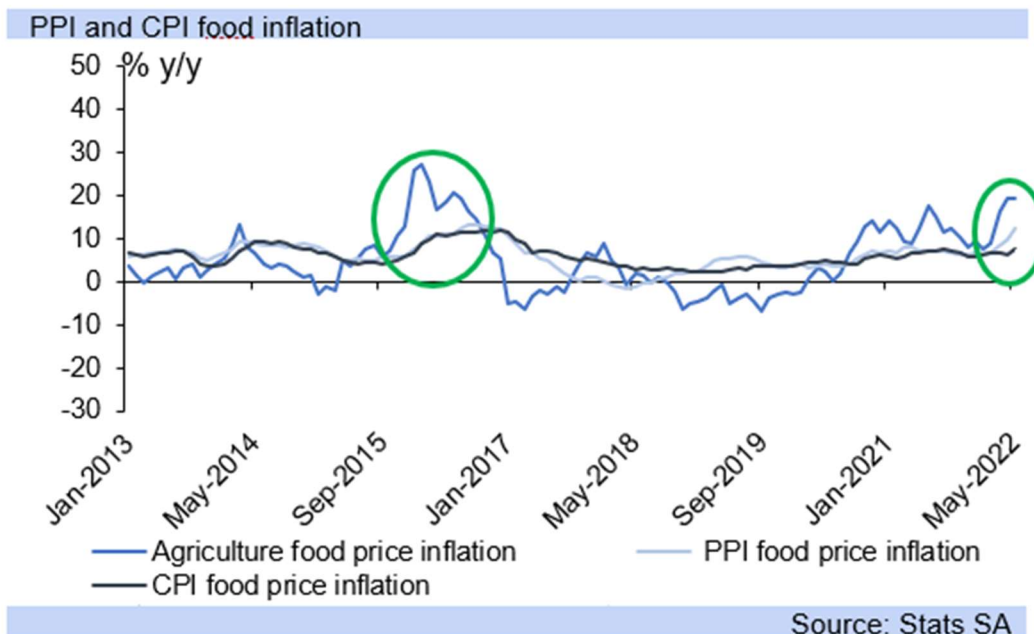
Source: Eskom

### Major projects planned in the TDP period 2022-2031



### Plant, gas turbine hydroelectric, pumped storage and nuclear units as well as the coal fired plant





- Absent urgent implementation this year which drives out red tape impeding the rapid expansion of renewable energy investment in SA from the private sector, SA's economic growth outlook will be severely under threat, and will not reach 3.0% y/y by 2027.
- Despite well past their lifespan, SA's vintage coal power stations will not be able to run forever, while the inadequate build on Kusile and Medupi has seen many delays and generation problems, with Eskom unique in attempting to provide the bulk of its own capacity as a utility.
- The destructive strike action has exacerbated the situation for an already weak and failing power system. It takes many years to change electricity capacity, with the current management of Eskom reaping the impact of two decades of inadequate investment.
- While SA has faced ongoing electricity tariff increases, its costs are still on the low end globally, and a further tariff increase will occur in July pushing up inflation in an already high inflation environment, with fuel and food costs are the key drivers of SA's CPI inflation.
- SA's PPI inflation rate jumped to 14.7% y/y today, up from 13.1% y/y in April, and will likely average 14.5% y/y this year, peaking at 17.0% y/y. Coke and petroleum products contributed half of may's PPI inflation outcome, and will place upwards pressure on other prices in SA.
- While edible product (food, beverage etc.) prices contributed 2.6% to the overall 14.7% outcome (coke and petroleum products 7.7%), this is expected to rise as food price inflation does this year with input costs running extremely high.
- Coal and petroleum price inflation is up 42.7% y/y, with diesel price inflation alone up 54% y/y, a key input into agriculture. Agriculture price inflation is running at 18.9% y/y, heralding further marked upwards price pressure on food price inflation at the CPI level.
- At the agricultural level, cereals and grains price inflation is at 30.8% y/y, while fish prices rose 19.2% y/y (from 9.9% in the previous month). Higher energy costs will

exacerbate farming costs, including high property rates and taxes and so water and electricity costs

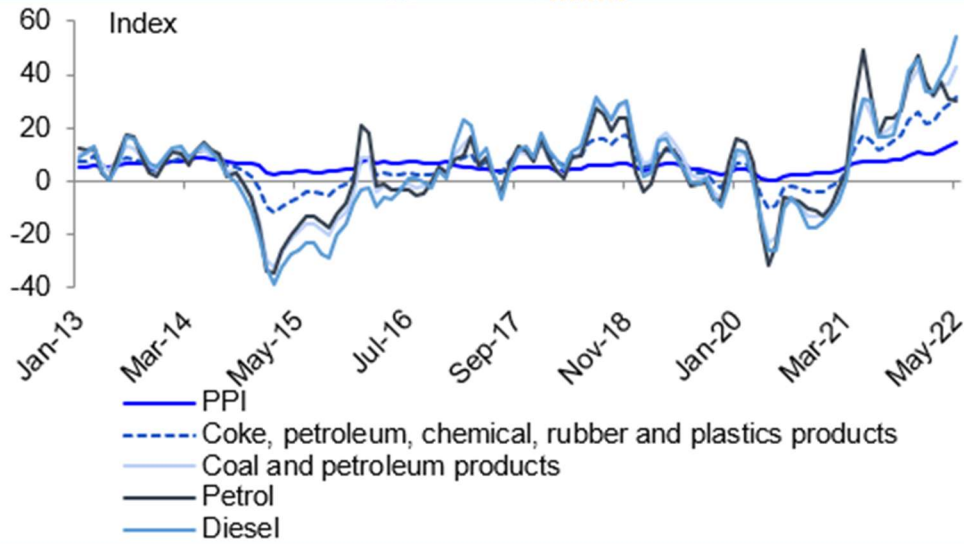
- No matter who the CEO of Eskom is, domestic electricity capacity will not be quickly increased. Driving the power stations to total collapse to keep the lights on for political gains would take months at least to repair, with no electricity for the vast majority of the country.

PPI forecast averages					
Date	Index Base 2016	Annual y/y	Monthly m/m	Quarterly y/y	Annual inflation y/y
Jan 2022	111.0	10.1	0.2	9.5	14.5
Feb 2022	112.2	10.5	1.1		
Mar 2022	115.0	11.9	2.5		
Apr 2022	117.1	13.1	1.8	10.8	
May 2022	119.2	14.7	1.8		
Jun 2022	120.5	15.1	1.1		
Jul 2022	122.9	16.6	2.0	14.3	
Aug 2022	124.3	17.0	1.1		
Sep 2022	125.4	17.0	0.9		
Oct 2022	126.1	16.9	0.6	16.9	
Nov 2022	126.8	15.9	0.5		
Dec 2022	127.3	14.9	0.4		
Jan 2023	128.3	15.6	0.8	15.9	8.9
Feb 2023	129.2	15.2	0.7		
Mar 2023	129.8	12.9	0.5		
Apr 2023	130.1	11.1	0.2	14.5	
May 2023	130.4	9.4	0.2		
Jun 2023	130.8	8.5	0.3		
Jul 2023	131.9	7.3	0.9	9.6	
Aug 2023	132.6	6.7	0.5		
Sep 2023	133.1	6.2	0.4		
Oct 2023	133.4	5.7	0.2	6.7	
Nov 2023	133.7	5.4	0.2		
Dec 2023	133.9	5.2	0.2		
Jan 2024	134.5	4.8	0.4	5.5	4.8
Feb 2024	135.3	4.7	0.6		
Mar 2024	135.9	4.7	0.5		
Apr 2024	136.3	4.8	0.3	4.7	
May 2024	136.8	4.9	0.3		
Jun 2024	137.3	5.0	0.4		
Jul 2024	138.5	5.0	0.9	4.9	
Aug 2024	139.0	4.8	0.3		
Sep 2024	139.4	4.7	0.3		
Oct 2024	139.8	4.8	0.3	4.8	
Nov 2024	140.2	4.9	0.3		
Dec 2024	140.5	4.9	0.2		
Jan 2025	141.3	5.1	0.6	4.9	
Feb 2025	142.3	5.2	0.7		
Mar 2025	143.3	5.4	0.7		

Source: Stats SA, Investec

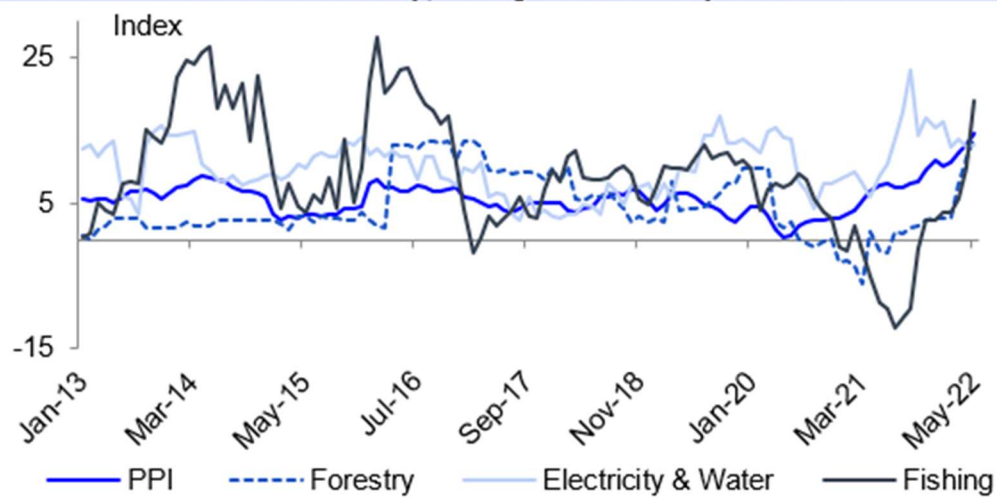


Producer Price Index – Coke, petroleum, petrol and diesel



Source: Stats SA

Producer Price Index – forestry, fishing and electricity and water



Source: Stats SA

## The maintenance backlog recovery plan update

Maintenance issues cutting across multiple stations	Description	Recovery plan
Vacuum issues at various power stations	<ul style="list-style-type: none"> <li>Scaling/fouling affect Condensers and Cooling Tower performance</li> </ul>	<ul style="list-style-type: none"> <li>Clean condenser tubes during every outage</li> <li>Replace cooling tower fill at Tutuka, Matla 4-6, Kriel and Duvha</li> </ul>
Late Control and Instrumentation Refurbishment projects	<ul style="list-style-type: none"> <li>Increasing failure rate of obsolete systems, lack of OEM support and spares and loss of skilled resources to maintain the DCS leading to higher risk of unit trips, load losses and extended outages.</li> </ul>	<ul style="list-style-type: none"> <li>Expedite procurement and funding allocations for high priority C&amp;I refurbishment projects.</li> <li>Contracting skilled resources</li> <li>Procurement of Critical Spares</li> </ul>
Overdue environmental projects	<ul style="list-style-type: none"> <li>Particulate Reduction is progressing at a slower rate than expected largely due to tenders coming in higher than approved budget and longer execution durations.</li> <li>SOx and NOx reduction projects are on hold primarily due to funding constraints</li> </ul>	<ul style="list-style-type: none"> <li>Funding is revised to reflect latest market costs and schedules, units to be completed by 2025 with the remaining by 2027.</li> <li>Risk remains at Tutuka and Kriel feasibility considering the shut-down by 2030.</li> <li>Contracts placed for High Frequency Power Supplies (HFPS) on precipitators at several stations (KD, KR, ML, LT, TT 4-6)</li> <li>Awaiting review of the appeal process of the Oct 21 MES Application Record of Decision.</li> </ul>

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Source: Eskom

## The maintenance backlog recovery plan update (continued)

Maintenance issues cutting across multiple stations	Description	Recovery plan
Maintenance backlog in preventing Boiler Tube Leaks	<ul style="list-style-type: none"> <li>A tube failure is considered to have occurred when a boiler tube's pressure boundary is broken and cause a leak or rupture.</li> </ul>	<ul style="list-style-type: none"> <li>Preventative maintenance by executing full repair scope of work during planned outages.</li> </ul>
Water Treatment Plants refurbishment projects	<ul style="list-style-type: none"> <li>Most of the Demin Water Production Plants are in much need of refurbishment.</li> </ul>	<ul style="list-style-type: none"> <li>Refurbishment of the demineralised-water production plants at the highest priority stations is in progress.</li> <li>Remaining stations will be expedited according to the refurbishment plan.</li> </ul>

Source: Eskom