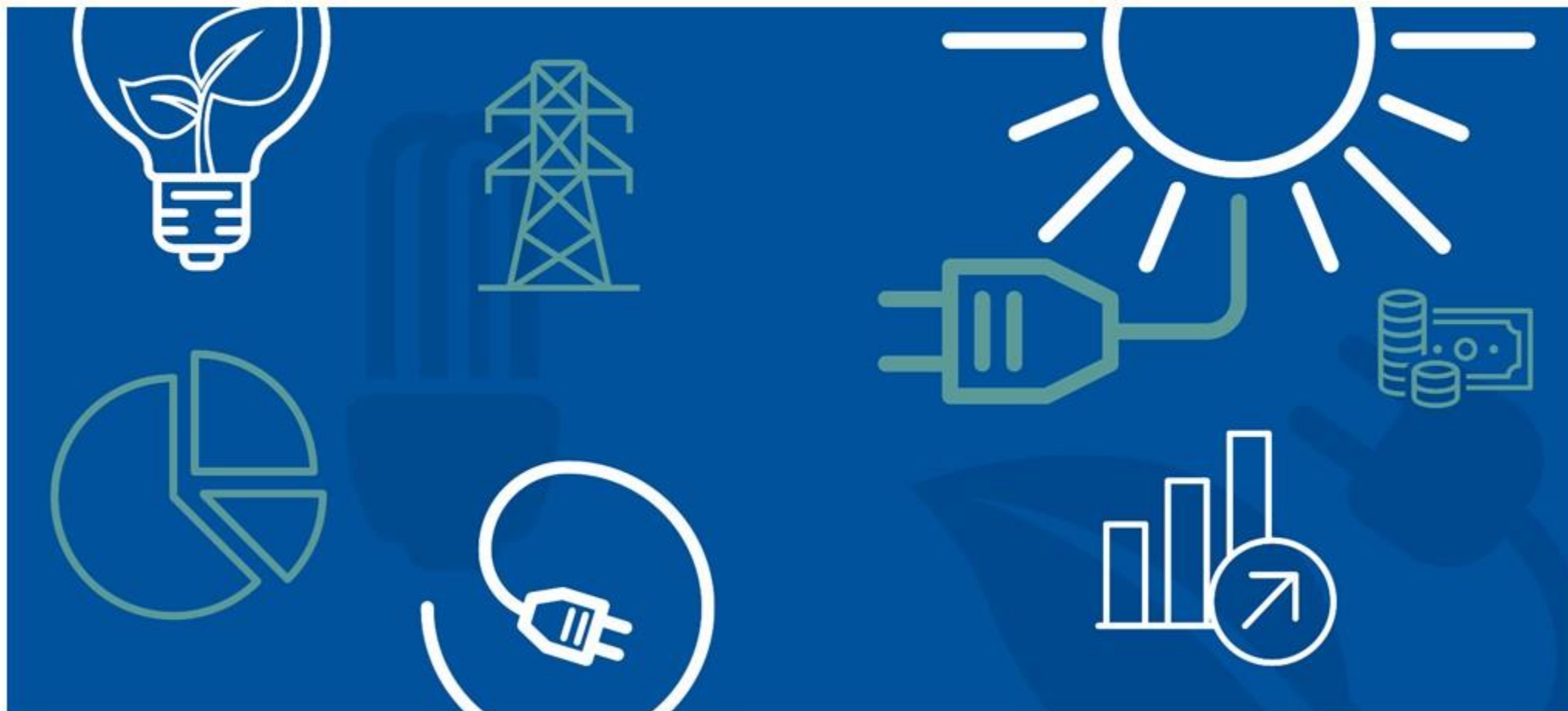


# Media briefing



26 April 2024

# State of the System - Winter 2024 Outlook Briefing

Dan Marokane

April 2024



- The **Winter 2023** performance was within the forecast frequency range - load shedding mostly contained between stages 2 and 4
- The **Generation Recovery Plan** – focusing on people, plant performance and processes & governance **gained traction from the beginning of Winter 2023** and is executed by Eskom in collaboration with NECOM structures.
- **Between April 2023 and March 2024, the reliability of the power plants is showing improvement** on the back of the of the Generation Recovery Plan, with a **YoY improvement of 9% in unplanned losses, and 19% decline in unit trips**
- **Since April 2023 to date, the frequency and the intensity of loadshedding has declined** as should be expected as the Generation Recovery Plan execution progresses.
- **NO loadshedding for 30 consecutive days – with the diesel spend 50% lower than the spend in the same month last year.** FY25 load factor of 9% compared to that of 18% in FY24.
- There is a **considerable shift in the unreliability assumption** for Winter 2024 forecast – a 1000 MW downward revision
- **For Winter 2024, the likely scenario indicates that loadshedding will be limited to Stage 2**
- **Over the winter period, targeting a further 1.7GW from reduction in unplanned losses (1.3GW) and driving Demand management initiatives (382MW)**
- Ending load shedding is a **collective effort** and we will be counting on your support for our **energy saving campaign in the month of May**

**#WeCanEndLoadsheddingTogether**





Recap on the winter 2023 outlook and performance



Set the context for this winter 2024 outlook



Provide an update in tackling unreliability of the units



# The actual system performance for Winter 2023 was within the forecast range

## Winter 2023 – 1 April 2023 to 31 August 2023 (153 days)

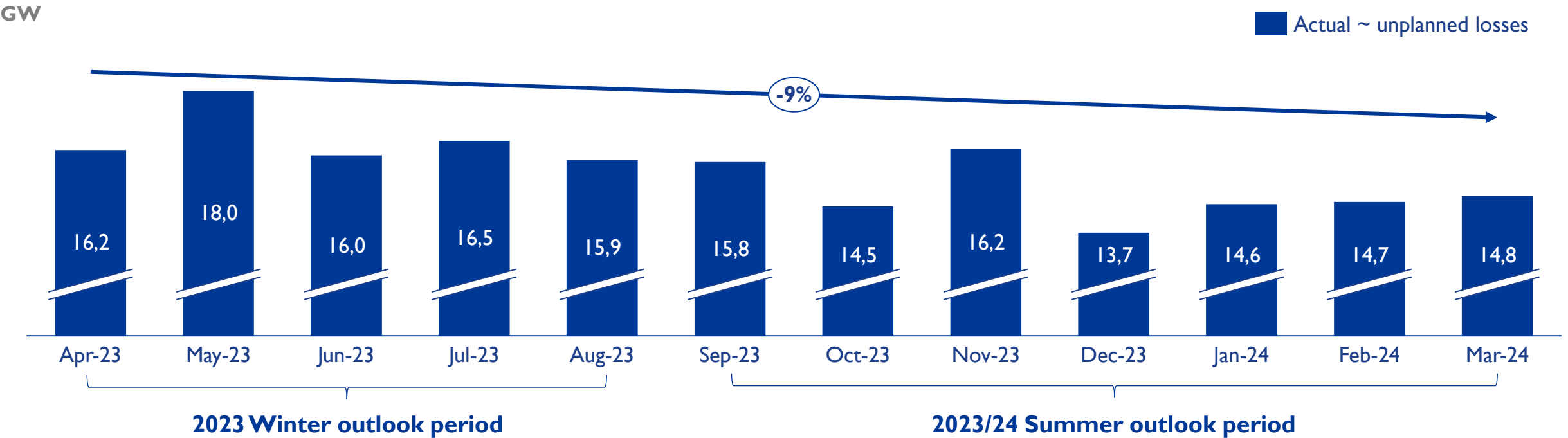
Scenarios		Base case: 15 000 MW UCLF		Base case +1500MW : 16 500 MW UCLF		Base case + 3000 MW 18 000 MW UCLF	
Number of LS days OCGT costs		122 Days R 12.1bn		152 Days R 12.5bn		153 Days R 12.5bn	
Highest stage of LS		Stage 5		Stage 6		Stage 8	
Month	Peak residual forecast	Load reduction days	Max load reduction stage	Load reduction days	Max load reduction stage	Load reduction days	Max load reduction stage
May	32 499	27	5	31	6	31	7
June	32 572	18	3	30	6	30	7
July	32 378	28	5	31	6	31	8
August	31 413	28	5	31	6	31	8

Average actual unplanned losses were around **16.5GW** and the majority of the **loadshedding** was contained to **stages 3 and 4 (with a maximum of stage 6)**

# Since last winter, Eskom's investment in maintenance and disciplined execution of the recovery plan has resulted in a gradual reduction of unplanned losses



Gx actual performance on unplanned losses<sup>2</sup>



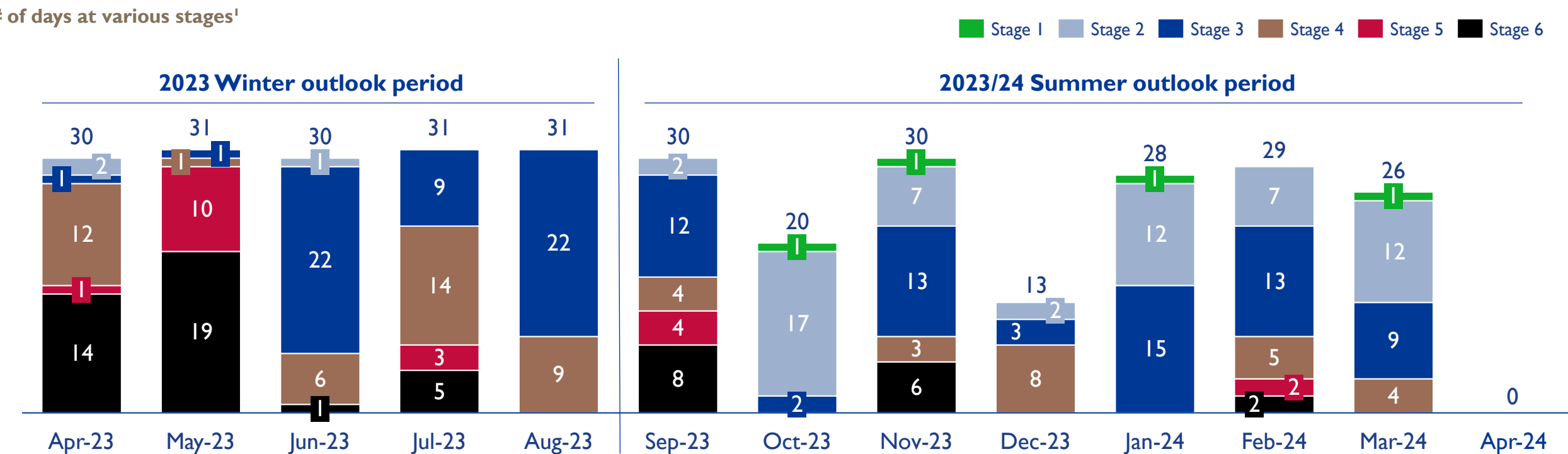
- **Downward trend** in unplanned losses **especially at the priority 6 stations** (Tutuka, Majuba, Kusile, Kendal, Matla, Duvha):
  - Year-on-year overall **unit trips are declining**, indicating the fleet is becoming more reliable – **19.2% reduction between FY23 vs. FY24**
  - **Return of 4 Kusile units**: U1-3 that were impacted by the flue duct collapse which have been recovered and U5 has been synchronised to the grid
  - Multiple projects are in **progress to reduce Partial Load Losses** – e.g. cooling tower refurbishments at Kriel and Tutuka, re-bagging at Majuba
- **Current unplanned losses of 14.2GW (~30%)** are however **still unsustainable** hence the **target is to reduce load losses to below 14GW<sup>1</sup>**

Source: State of the system outlooks; Eskom Public Data Portal  
Note 1: The targets for FY25 is still under review; 2: UCLF+OCLF. Gx – Generation, UCLF – Unplanned Capability Loss Factor

# The continuing improvement in Generation plant performance and the accompanying reduced loadshedding intensity has informed our updated outlook



## Overview of loadshedding intensity and frequency between April 2023 and March 2024



- Eskom implemented loadshedding on over 90% of the days between April 2023 and March 2024, though there is a **clear decreasing trend** and the **majority of loadshedding has been contained to between stages 2-4**
- The **return of Kusile units** ahead of schedule and recovery of unplanned load losses **assisted in reducing the frequency and intensity of loadshedding** in the FY2024 summer period
- Eskom **has not implemented loadshedding for 30 consecutive days**

Source: 2023/2024 Load Shedding and Curtailment events Notes: 1: Indicates maximum stage per day

# Winter 2024 loadshedding forecast to be within stage 2

 Likely scenario

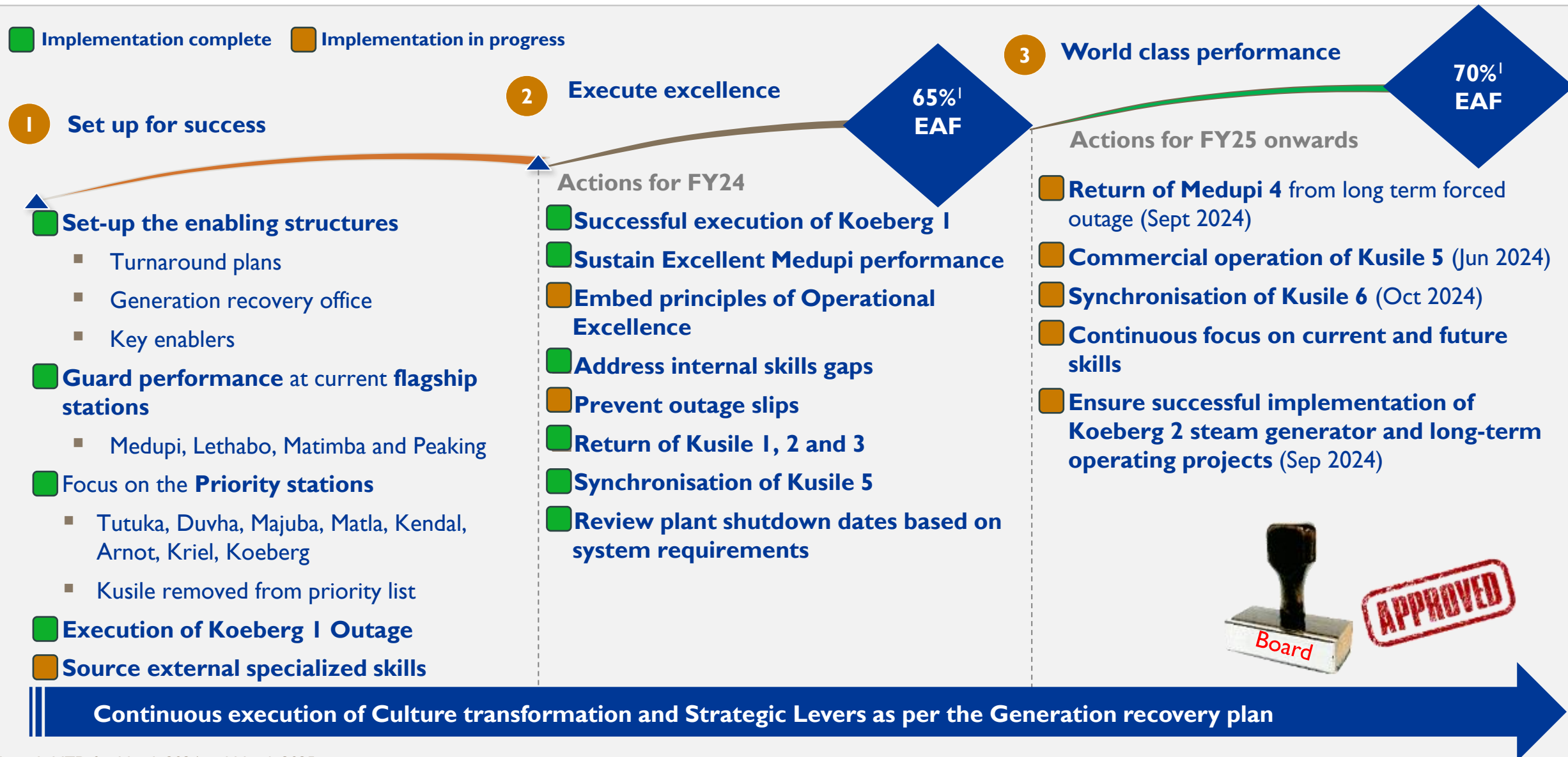
Winter 2024 – 1 April 2024 to 31 August 2024							
Scenarios		Base Case: <b>14 000 MW</b> unplanned outages		Base Case + 1500MW: 15 500 MW unplanned outages		Base Case + 3000MW: 17 000 MW unplanned outages	
Number of LS days Diesel costs		5 Days R 3.3bn		<del>65</del> 50 Days R 8.8bn		<del>128</del> 103 Days R 16.0bn	
Highest stage of LS		Stage 1		Stage 2		Stage 5	
Month	Peak Residual Forecast	Load reduction days	Max load reduction stage	Load reduction days	Max load reduction stage	Load reduction days	Max load reduction stage
April	29,354	0 ✓	0	<del>15</del> 0	<del>2</del> 0	<del>25</del> 0	<del>5</del> 0
May	31,205	0	0	10	1	23	2
June	32,204	2	1	8	2	22	5
July	32,182	0	0	19	2	31	5
August	31,336	3	1	13	2	27	5

Considerable change in performance showing a recovery of 1000 MW has improved our confidence  
 With unplanned losses **maintained between 14GW-15.5GW**, loadshedding intensity **over the Winter period is anticipated to be contained within stage 2**, with a worst-case scenario of stage 5 at unplanned losses of 17GW



- **Generation recovery overview**
- Demand management overview
- Conclusion

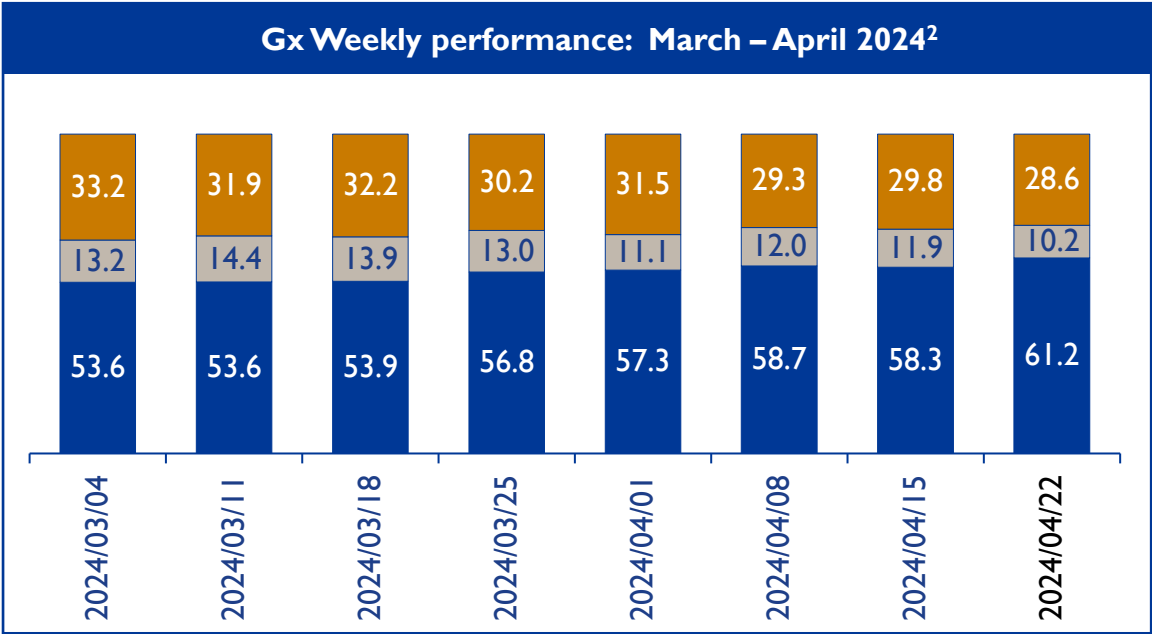
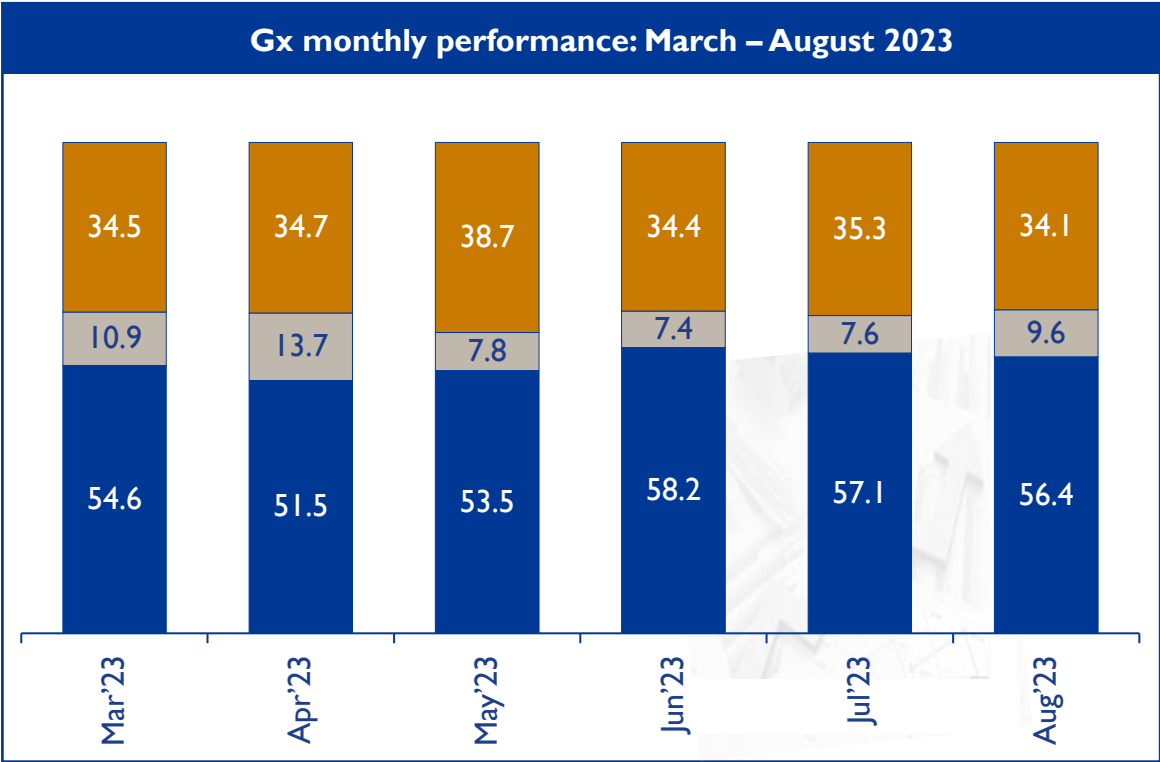
# Execution of the Generation recovery plan initiatives has led to a considerable improvement in plant performance



# Eskom has managed to increase plant availability and decrease spend on expensive OCGT generation, especially across Mar and Apr 2024



Unplanned losses %   Planned losses %   Available %



R'bn<sup>1</sup>

Month	R'bn <sup>1</sup>
Mar'23	2.1
Apr'23	3.1
May'23	4.2
Jun'23	2.3
Jul'23	3.1
Aug'23	2.1

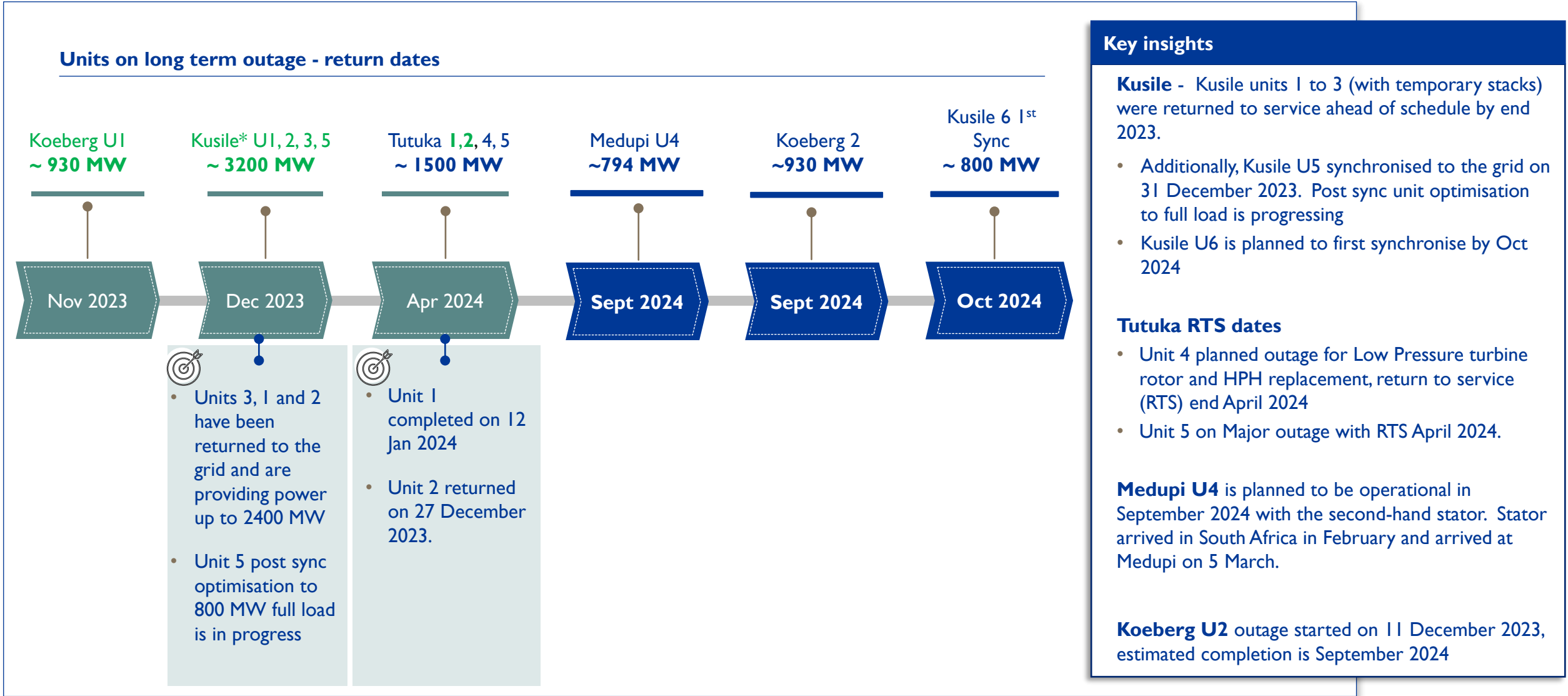
1.2   0.8   1.2   0.05   0.04   0.4   0.45   0.46

3.3<sup>3</sup>   1.4

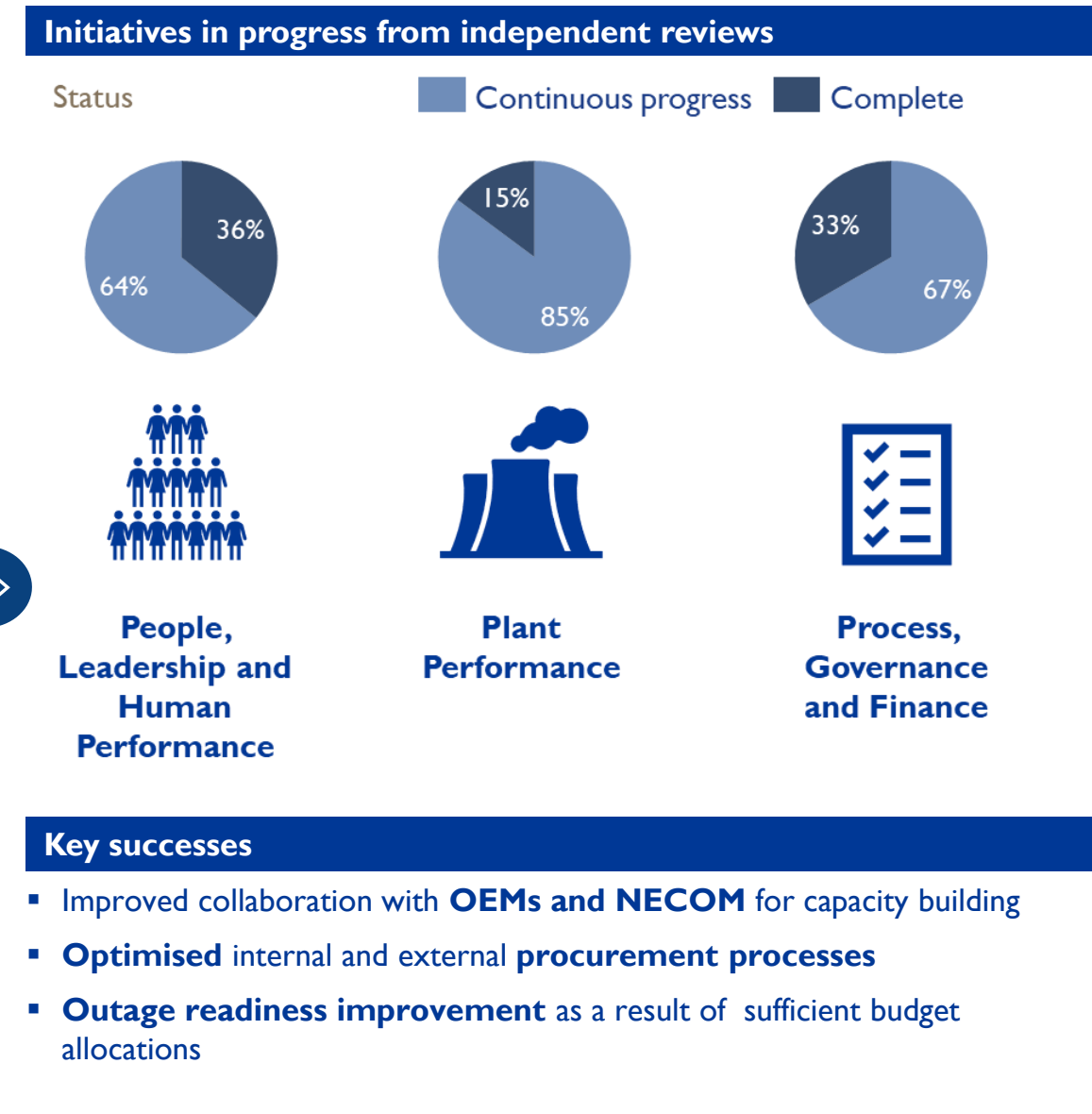
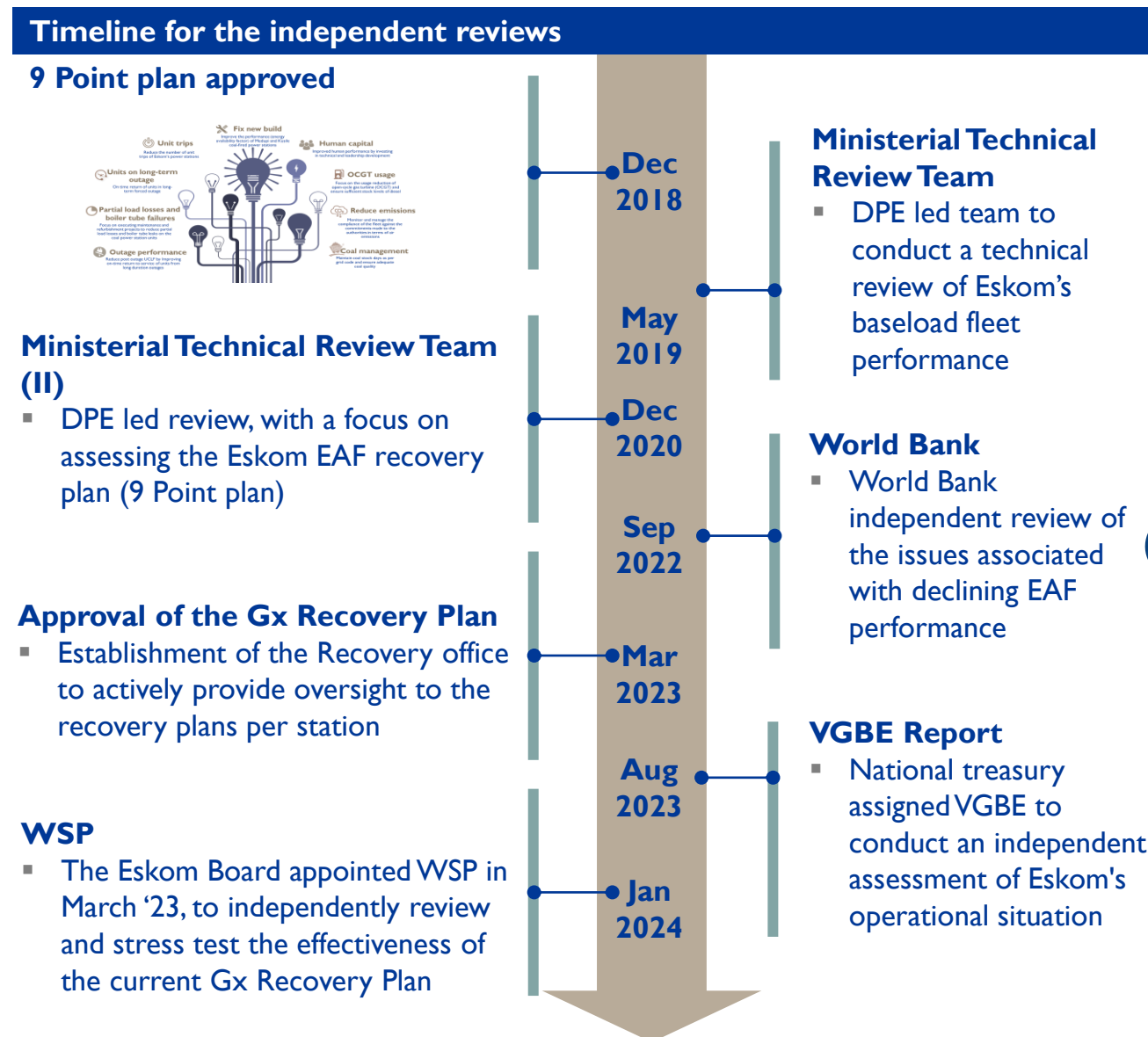
- Eskom's **plant availability** has been **trending upwards**, especially for **Mar and Apr 2024**, supported by **decreasing unplanned losses**
- The increased availability has supported **decreasing spend** on **expensive OCGT generation**
- OCGT are part of the energy mix utilized for meeting peak demand as required by the system operator

Notes:  
1: Draft numbers, still to be audited 2: unplanned losses includes OCLF; 3: Includes 1-3 March spend

xx Denotes Eskom and IPP OCGTs MTD and WTD actual costs



# Recommendations from the independent reviews including the recent VGBe report have been incorporated into the Gx Recovery Plan





# Key enablers are being implemented to ensure that the Recovery Programme is sustainable



Implementation complete
 Implementation in progress

Enablers and progress status	
Leadership Stability	<ul style="list-style-type: none"> <li>✓ <b>Delayed and stabilised leadership</b> team by <b>closing critical vacancies</b> (Appointment of Gx GE, critical PSGM vacancies, removing cluster structure)</li> <li>✓ Executive <b>coaching</b> and <b>psychosocial</b> supported via <b>EmpowerU</b> intervention</li> <li>✓ Implemented <b>Management Development, Technical training and authorisations</b> (GTLP and MDP implemented with over 40 individuals over three years in the program; technical training reinstated through EAL with 11 Gx artisans currently involved; Top Talent and Millennials programs instituted)</li> </ul>
Critical Vacancies	<ul style="list-style-type: none"> <li>✓ Closed <b>critical vacancies</b> through <b>crowdsourcing and recruitment</b> - focus on <b>Engineering, Operating, Maintenance, Commissioning and Procurement</b> (since Apr 2023; over ~2500 vacancies closed either through external appointments or internal promotions)</li> <li>✓ <b>Industry support on priority stations and general technical support</b> on valves, pumps, waste water recovery system, and coal conveyors</li> </ul>
Maintenance & Inventory Management	<ul style="list-style-type: none"> <li>✓ <b>Prioritised insourcing of critical maintenance with labour support</b> and <b>limited outsourcing to credible service providers</b></li> <li>✓ <b>Establishment of inventory management and recovery team</b> for turbine, boiler, and auxiliary plant (ERI actively implementing recovery plan to improve quality of service; barcoding system piloted at Duvha for improved inventory management)</li> </ul>
Government Support	<ul style="list-style-type: none"> <li>✓ Leveraging <b>other SOE support</b> - Engaging Denel to leverage state capability on security and SAA on technical support for gas turbines</li> <li>✓ <b>Gained environmental exemption</b> to allow for Kusile U1, U2 and U3 to operate at full capacity with temporary stack (returned all 3 units to service during 2023 to support the grid)</li> <li>✓ Minimum emissions appeal to DFFE for multiple power stations (Awaiting DFFE feedback)</li> <li>✓ Government support for Eskom's <b>participation in clean energy investments to support RE growth, e.g. gas and pumped hydro storage and nuclear schemes</b></li> </ul>

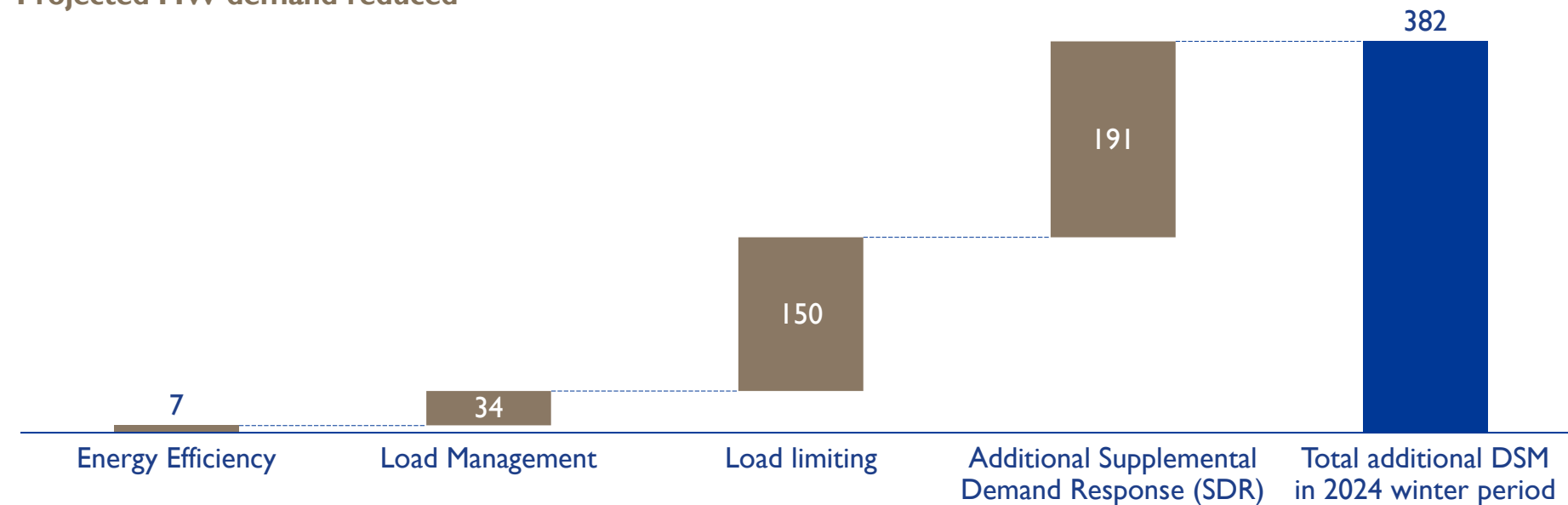
- Generation recovery overview
- **Demand management overview**
- Conclusion

# Demand management initiatives with a target of ~382 MW have been identified for the 2024 winter period



## Overview of Demand Management initiatives

### Projected MW demand reduced



- Beyond the winter outlook, Distribution will be driving initiatives worth 2282MW in the next 12 – 18 months, which include:
  - Residential load management from Metros (432 MW)
  - Load Limiting (1850 MW)

- Eskom is focusing on **4 areas to deliver 382MW of demand reduction during the 2024 winter period** which will assist to alleviate pressure on the electricity system. This is over and above the cumulative demand savings of 4 800 MW achieved since the program was initiated in 2005
- Some progress to date includes:
  - Successful deployment of 50MW load limiting** through **smart meters** and to achieve **+ 150MW within the 2024 winter period**
  - An incentivised demand management programme launched** April '23 - R3m/MW for load management and R0.41c/kWh for energy efficiency
  - Deployment of **Eskom Energy Efficiency Programmes** and **Power Alerts** driving behaviour change
- Working together with municipalities to address **ongoing infrastructure theft, vandalism and overloading – over 1 000 isolated/ failed transformers** throughout the country.

In addition to demand reduction, Eskom is also focusing on five additional initiatives to relieve pressure on the electricity system

Initiative	Description
Small Scale Embedded Generation (SSEG)	<ul style="list-style-type: none"><li>• Incentivising customers to export excess energy and receive a credit to add energy to the grid</li><li>• Efforts being undertaken to encourage customers to make safe inverter installations by registering with the utility - 429 systems with an equivalent capacity of 254 MW has been authorised to date</li><li>• Battery energy storage commissioned with another 5 under construction and 2 in procurement</li></ul>
Microgrids	<ul style="list-style-type: none"><li>• Deploying microgrids as an alternative to grid-tied solutions, providing further relief to the system</li><li>• 20 microgrids installed over 2023/4 with a target of 33 over 2024/5 financial year</li></ul>
Wheeling	<ul style="list-style-type: none"><li>• Driving virtual wheeling and traditional wheeling solutions to incentivise establishment of, and investment into generation facilities</li></ul>
Standard Offer	<ul style="list-style-type: none"><li>• Developed Standard Offer program that allows customers to sell excess energy to Eskom – 16 projects with a total capacity of 66 MW in the pipeline</li></ul>
Community Co-ops	<ul style="list-style-type: none"><li>• Driving collaborative partnerships with various communities in all the provinces to manage their electricity supply and infrastructure with the aim of reducing electricity theft and vandalism, providing further relief to the system</li></ul>

# Eskom is working with the IEC to ensure that adequate plans are in place to ensure electricity supply



## Election Preparations

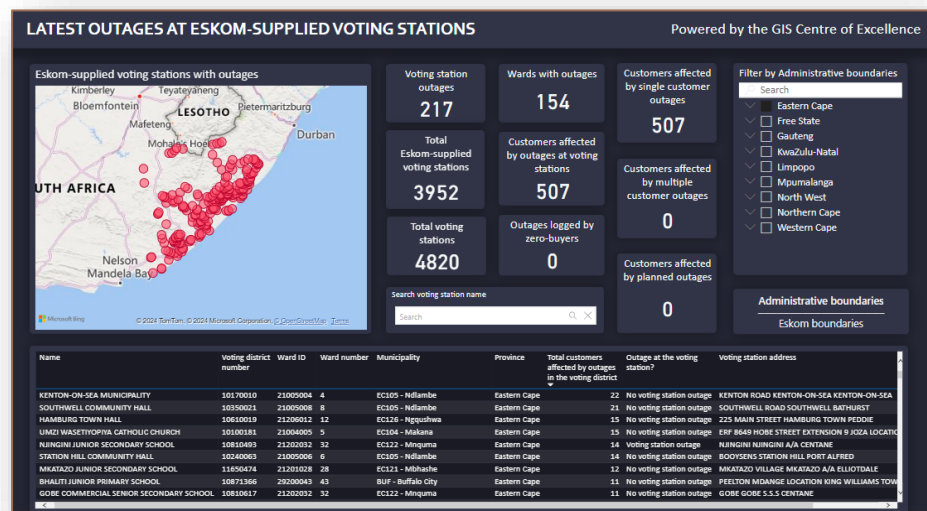
- Distribution Tactical Command Centre is co-ordinating Distribution preparedness for the elections.
- Distribution Provincial Elections co-ordinators appointed.
- Engagements with external stakeholders (National and Provincial IEC) have commenced.
- Memorandum of understanding between Eskom and IEC concluded and has been signed off from Eskom side.



## Operational plan

- **Outages and Maintenance**
  - Unplanned outages affecting voting stations will be escalated and prioritised in terms of dispatching.
- **Emergency Response Structures will be activated when necessary**
  - Provincial Joint Command Centre's (PJCC's).
  - Distribution Tactical Command Centre.
- **Situational awareness structures and Eskom's presence at IEC results centres**
  - Situational awareness structures at Provincial and National levels will be activated during election period to provide information to stakeholders in relation to total systems capacity and continuity of supply at the voting stations

## Voting Station Dashboard Link



## Voting Stations Per Province

Operating Unit	Total Voting stations	Voting Stations in Eskom supply	Voting Stations in Eskom supply with electricity	Voting Stations in Eskom supply with no electricity	Voting stations in Munic supply
Eastern Cape Operating Unit	4838	4068	3768	300	770
Free State Operating Unit	1553	680	547	133	873
Gauteng Operating Unit	2979	1365	1217	148	1614
KwaZulu-Natal Operating Unit	5011	3626	3375	251	1385
Limpopo Operating Unit	3267	2951	2768	183	316
Mpumalanga Operating Unit	1816	1326	1247	79	490
North West Operating Unit	1509	1187	1081	106	322
Northern Cape Operating Unit	757	407	377	30	350
Western Cape Operating Unit	1573	549	532	17	1024
Grand Total	23303	16159	14912	1247	7144



- Generation recovery overview
- Demand management overview
- **Conclusion**

- We have seen a **positive trend in the reduction of unplanned load losses** leading to the **reduction in loadshedding intensity and frequency** over the FY24 summer period
- The **winter outlook likely scenario indicates loadshedding will be limited to stage 2**, given improvement in the generation fleet performance since last winter outlook
- Through **disciplined execution and single-minded focus on our Generation Recovery Plan**, we expect loadshedding intensity to continue to reduce
- We appreciate the efforts of our **employees and the NECOM partnership** for their contribution **towards reducing the intensity of loadshedding**
- The biggest impact we can all make as a nation is to **use electricity sparingly** and encourage **participation in the energy saving initiatives** during the month of May (**Energy saving month**)
- We **understand and apologise for the negative impact that loadshedding** has had on the South African people, but we remain steadfast in our plan to overcome it

# Media briefing



26 April 2024