

# State of the System – Winter 2025 Outlook Briefing

5 May 2025





**Key takeaways and reflections for the Winter 2025 Outlook** 

**Update on the Generation Recovery Plan** 

**Update on Load Reduction and Demand Management initiatives** 

Eskom's direction of travel to achieve long term success

**Dan Marokane**Group Chief Executive

**Bheki Nxumalo**Group Executive - Gx

**Monde Bala**Group Executive - Dx

**Dan Marokane**Group Chief Executive



### Key Takeaways



- Significant improvements have been made since the Summer 2024/25 outlook (Sept 2024 Mar 2025). However, we have seen some setbacks in operational excellence, as evidenced by the recent loadshedding requirements between Jan to Apr 2025.
- Visible year on year performance improvement due to progress in the Generation Recovery Plan led to nine months of no loadshedding, however Jan –April 2025 saw loadshedding implemented on five occasions.
- Despite the setbacks, Eskom supplied South Africa with more electricity and reduced loadshedding without excessive use of diesel an improvement in operational performance.
- A clear plan has been developed to address the root causes related to the recent loadshedding events, focusing on people, plant and processes.
- Given the progress made to date with the state of fleet performance, Winter 2025 outlook is premised on:
  - Unplanned outage scenarios revised downwards ranging between 13 GW to 15 GW (14 GW to 17 GW previous Winter)
  - No loadshedding expected if <u>unplanned losses remain below 13 GW</u> (at worst, 21 days of up to stage 2 if unplanned losses reach 15 GW<sup>2</sup>)
- Load reduction remains necessary at times to protect the network and people in some areas with rampant illegal connections. We have embarked on campaigns with law enforcement to remove these connections.
- Eskom continues to focus on key strategic areas to become an investable, sustainable and competitive company while ensuring long term security of supply.

#WeCanEndLoadsheddingTogether

# Reflections: Eskom's performance has improved significantly since April 2024, setting a good base to build on



1 April 2024 – 31 March 2025



**352 days** of loadshedding free days



### >RI6bn<sup>2</sup>

In reduced diesel spend (I April 2024 – 31 March 2025 vs same period last year). This represents a reduction of ~50%



~3.IGW

Reduction in unplanned load losses compared to previous financial year



61% **EAF** 

For FY25, improvement from 54.55% for previous financial year



12.8% PCLF

For FY25, slight increase from previous financial year's 12%, indicating an increase in planned maintenance activities as part of the Generation Recovery Plan.



3.6% Sales growth

Estimated Sales volume growth for FY25 (compared to FY24 actuals), driven by reduced loadshedding and higher exports<sup>3</sup>.

Reflections: Number of loadshedding days were lower than expected over Summer period for the likely scenario, although more intense stages experienced between Jan and Mar 2025



|                     |  |  |                              | Better than expe | ected As expecte                | d Worse than expected  |  |
|---------------------|--|--|------------------------------|------------------|---------------------------------|------------------------|--|
|                     |  | Summer 2024/25 –   | 1 September 2024 to 31 March | 2025 (212 0      | days)¹                          |                        |  |
| Scenarios           |  | Likely scenario expectations<br>(Base Case + 1 000MW: 14 000MW UCLF) |                              |                  | Actual performance              |                        |  |
| Number of OCGT      | and the second | 21 Days<br>R 10.3bn  |                              |                  | 13 Days<br>R12.4bn <sup>2</sup> |                        |  |
| Highest stage of LS |  | Stage 1  |                              |                  | Stage 6 (23 hrs)                |                        |  |
| Month               | Peak<br>Residual<br>Forecast   | Loadshedding<br>days   | Max Loadshedding stage       |                  | Loadshedding<br>days            | Max Loadshedding stage |  |
| September           | 29 389   | 1  | 1                            |                  | 0                               | 0                      |  |
| October             | 28 928   | 0  | 0                            |                  | 0                               | 0                      |  |
| November            | 28 868   | 1  | 1                            |                  | 0                               | 0                      |  |
| December            | 28 398   | 5  | 1                            |                  | 0                               | 0                      |  |
| January             | 28 105   | 3  | 1                            |                  | 1                               | 3                      |  |
| February            | 28 486   | 1  | 1                            |                  | 7                               | 6                      |  |
| March               | 28 967   | 10   | 1                            |                  | 5                               | 3                      |  |

<sup>•</sup> Likely scenario anticipated 14 GW of unplanned losses, however due to success of the Generation Recovery Plan, actuals ~12.5 GW during the summer period

Actual planned maintenance of 6 670 MW<sup>3</sup> on average over the summer period was in line with assumptions (~6 700 MW)

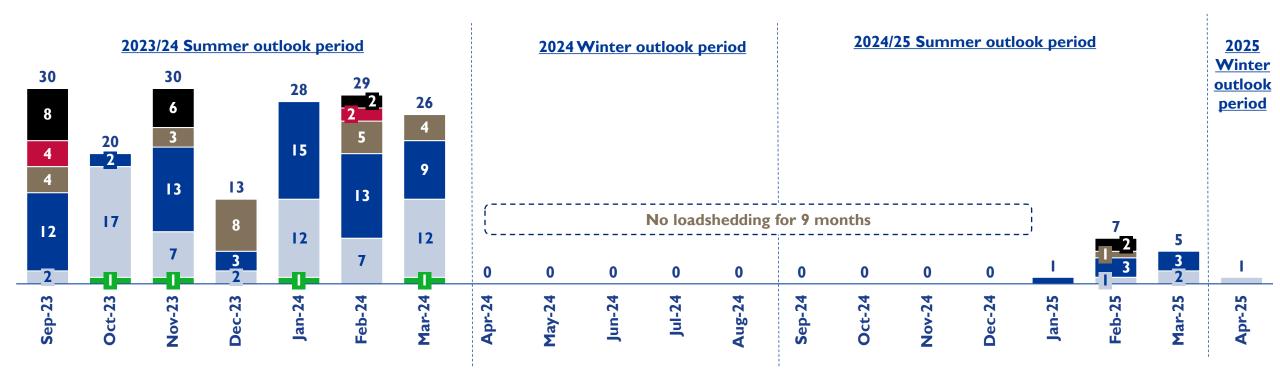
# Reflections: The continued improvement in Generation plant performance has resulted in the suspension of loadshedding for 9 months



Overview of loadshedding intensity and frequency between Sep 2023 and Mar 2025

Stage 1 Stage 2 Stage 3 Stage 4 Stage 5 Stage 6

# of days at various stages1



- An average of 11.6 GW unplanned losses between Sept 2024 and Dec 2024 has resulted in no loadshedding required within the period
- Unplanned losses reached 10.9 GW in Nov 2024, the lowest average monthly level achieved since August 2021 (~10.7 GW)
- Increased unplanned losses experienced between Jan and Mar 2025 have unfortunately resulted in loadshedding. This is considered a temporary setback, and we continue to focus on the Generation Recovery Plan with the required adjustments

Source: Eskom, as at 30 April 2025; 2023/2024 Load Shedding and Curtailment events

Notes: 1: Indicates maximum stage per day

### Reflections: Loadshedding was required in five instances since the start of 2025



As at 25 April 2025



Five incidents of

loadshedding

(14 days in total between

stage 2 and  $6)^2$ 

### 31 Jan 2025 to 2 Feb 2025 (Stage 3)

Full unit failures totaling 4 665 MW at various stations, required stage 3 loadshedding over the weekend to replenish emergency reserves<sup>1</sup>

### 22 Feb 2025 – 26 Feb 2025 (Stage 2 – Stage 6)

Multiple trips at various stations totaling ~4 400MW and low solar power generation (high cloud cover) required stage 2-6 loadshedding

### 7 Mar 2025 – 9 Mar 2025 (Stage 3)

Multiple units offline due to unplanned losses (~4 500MW) and outage slip (~1400 MW), required stage 3 loadshedding over the weekend to replenish emergency reserves

#### 19 Mar 2025 - 20 Mar 2025 (Stage 2)

Unit losses at various stations totalling ~2 000 MW, including supply reduced from imports (i.e. Cahora Bassa), and depleting emergency reserves, required stage 2 loadshedding to be implemented

Winter outlook

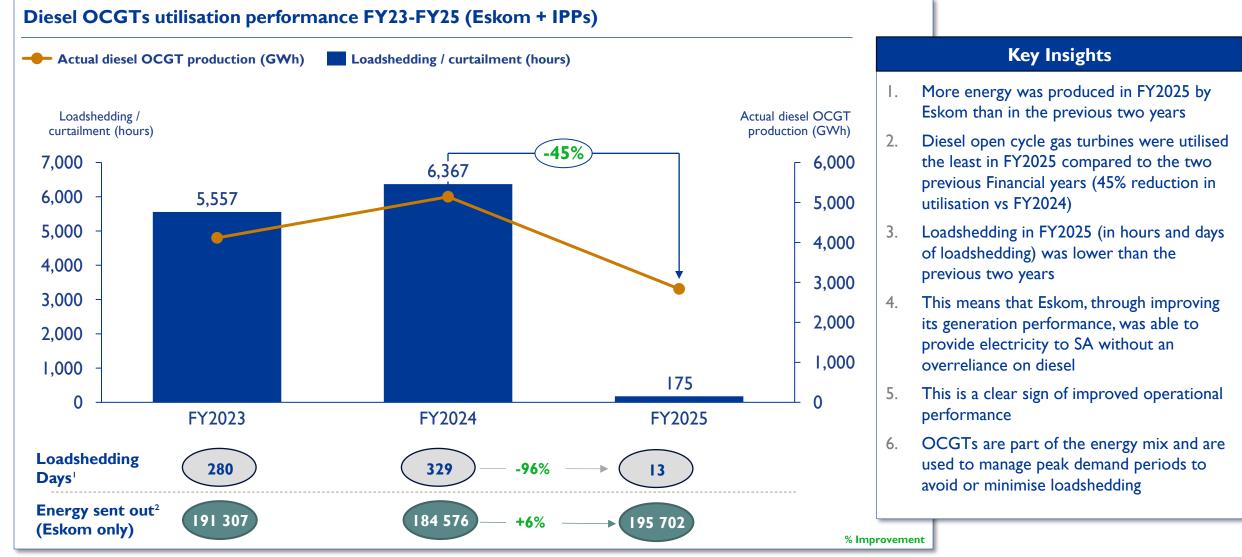
#### 24 April 2025 (Stage 2)

Unplanned losses from full unit failures at various stations totalling ~2 160 MW, required stage 2 loadshedding to be implemented

- We are maintaining our focus on the Generation Recovery Plan and Demand Management initiatives to minimise loadshedding requirements over the Winter 2025 period
- In the event the need arises, our approach is to minimise the impact of loadshedding on the economy through implementing loadshedding over weekends or outside business hours where possible

Despite the setbacks, Eskom supplied South Africa with more electricity and reduced loadshedding without excessive use of diesel – an improvement in operational performance





# Winter 2025 Outlook - No loadshedding expected for unplanned outages below 13 000 MW, stage 2 expected if unplanned outages reach 15 000 MW



Change to outlook

|                              |                              | W                            | /inter 2025 – I Apri         | il to 31 August 2025                  | (153 days)                   |   |                              |
|------------------------------|------------------------------|------------------------------|------------------------------|---------------------------------------|------------------------------|---|------------------------------|
| Scenarios                    |                              | Base Case:<br>13 000 MW UCLF |                              | Base Case + 1000MW:<br>14 000 MW UCLF |                              | Base Case + 2000MVV:<br>15 000 MVV UCLF |                              |
| Number of LS days OCGT costs |                              | 0 Days<br>R 0.7bn            |                              | I Day<br>R 2.1bn                      |                              | 21 Days<br>R 4.8bn                      |                              |
| Highest stage of LS          |                              | -                            |                              | Stage I                               |                              | Stage 2                                 |                              |
| Month                        | Peak<br>Residual<br>Forecast | Loadshedding<br>days         | Max<br>loadshedding<br>stage | Loadshedding<br>days                  | Max<br>loadshedding<br>stage | Loadshedding<br>days                    | Max<br>loadshedding<br>stage |
| April                        | 27,739                       | 0                            | -                            | 1                                     | 1-2                          | 8                                       | 2                            |
| May                          | 29,259                       | 0                            | -                            | 0                                     | -                            | 5                                       | 1                            |
| June                         | 30,777                       | 0                            | -                            | 0                                     | -                            | 0                                       | -                            |
| July                         | 30,872                       | 0                            | -                            | 0                                     | -                            | 5                                       | 1                            |
| August                       | 29,599                       | 0                            | -                            | 0                                     | -                            | 3                                       | 1                            |

- Our Winter 2025 unplanned breakdown assumptions are revised downwards by I 000 MW- 2 000 MW against Winter 2024 assumptions, due to improved plant reliability. This results in **maximum stage 2 loadshedding expected** (compared to the previous Winter forecast, which predicted up to stage 5)
- Stage 2 incident in April 2025 was due to two units that failed to return as committed, exacerbated by Medupi 5 trip. This pushed the UCLF momentarily beyond 15 000 MW indicated in our winter 2025 outlook
- It is important to note that the **Weekly System Status reports are not a loadshedding forecasts**, but reflects potential reserve shortfalls without considering the available short-term reserve and demand side levers

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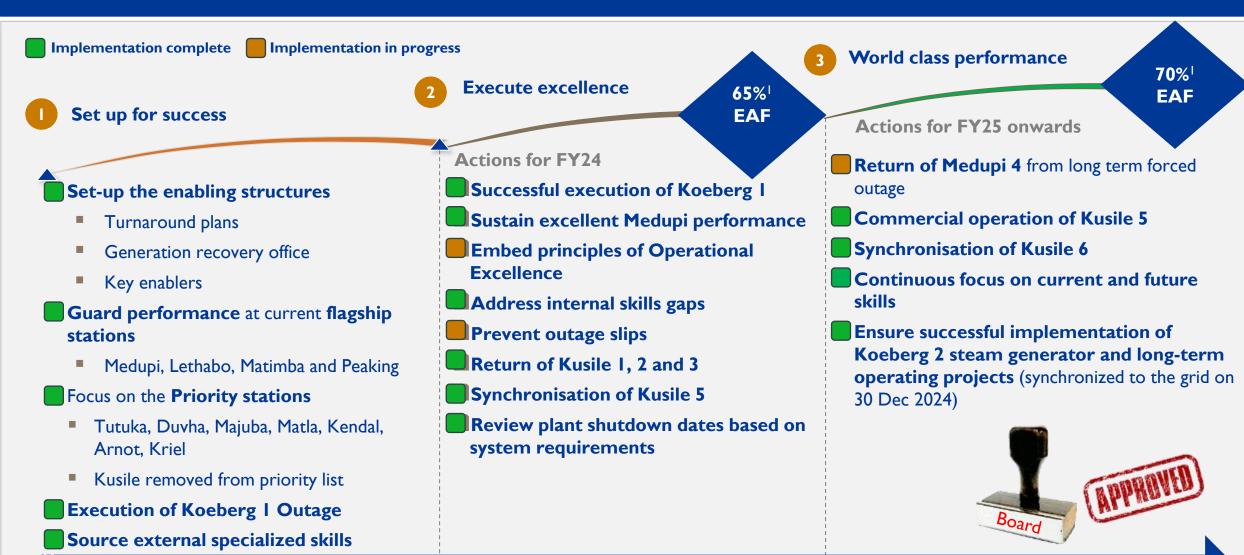
**Bheki Nxumalo**Group Executive - Gx

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# Generation continues to drive the Recovery plan initiatives which have resulted in improved performance

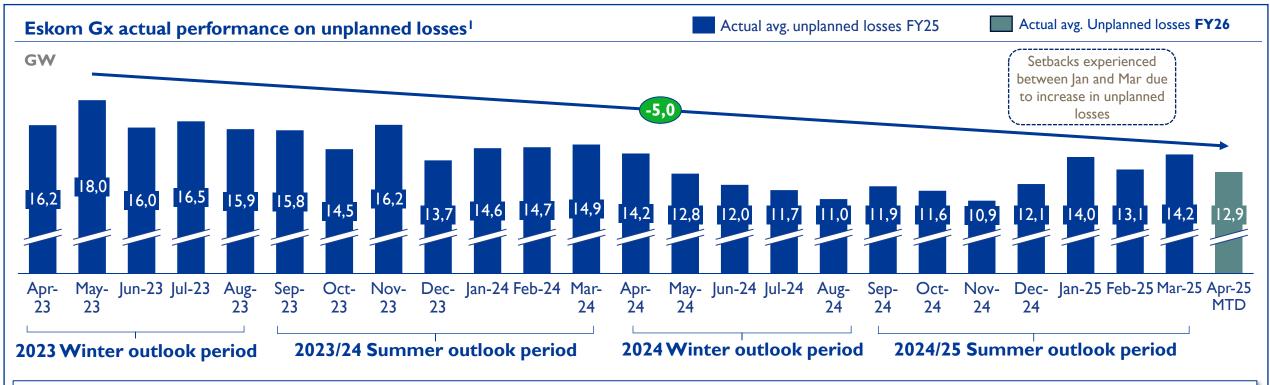




Continuous execution of Culture transformation and Strategic Levers as per the Generation recovery plan

### There is a consistent reduction in unplanned load losses on the back of disciplined execution of maintenance

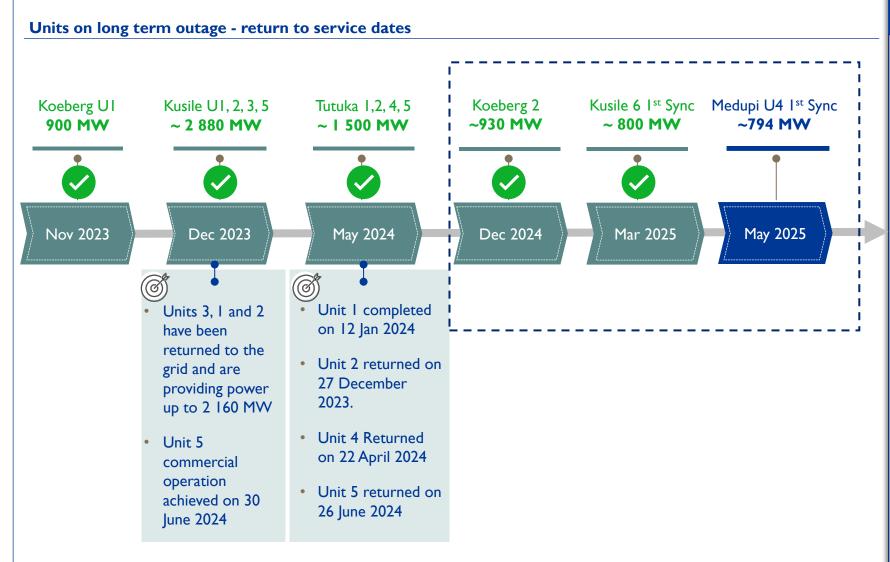




- Downward trend observed in unplanned losses, specifically driven by five of the priority 8 stations (Tutuka, Kendal, Majuba, Duvha and Kusile)
- Unplanned losses of ~13.7 GW between Jan and Mar 2025 was as a result of a lethal combination of undesirable events e.g. clustering of boiler tube leaks (BTL), several other breakdown incidents (PLLs, trips), higher than normal rainfall and delayed returns from planned outages (~1.2 GW)
- Comparing the unplanned losses in May 2023 (18 GW) vs April 2025 MTD (12.9 GW) shows an improvement of approximately 5 GW, which further illustrates that the reduction in loadshedding is materially on the back of improved plant performance
- Eskom plant availability for FY25 averaged 61% (significant improvement from 54.6% for FY24) and achieving above 65% in July and August 2024

# The additional ~794 MW capacity expected by May 2025 will contribute to security of supply





#### **Key insights**

Despite some delays, three units are still expected to return to service by the end May:

- **Koeberg U2** was synchronized to the grid on 30 December 2024
- Koeberg U1 is currently on outage for the second phase of long-term operations projects and is expected by July 2025
- Kusile U6 was successfully synchronized to the grid on 23 March 2025 at 16h45. The focus is now on ensuring the unit achieves commercial operation by end of September 2025
- Kusile U2 & U3 outages have been completed to reinstate main stacks and FGD. Kusile U1 is currently on outage and will return in June connected to the main stack
- Medupi U4 is expected to synchronize by May 2025

Over and above the commissioning of new units and returning units from long term outages, continued operation of five coal stations up to 2030 is crucial to support with security of supply

# Generation needs to leverage and re-enforce the performance gains made in the last year, however Gx must also do things differently for sustained performance



It must be acknowledged that there has been a marked improvement in plant availability such that chronic loadshedding has declined i.e. frequency and severity. However, there is an ongoing need to deepen continuous improvement to entrench a systems, people, process mindset.

#### Things that will be done differently Things to be Re-enforced Entrench "Systems, People, Process" mindset **Leadership development focus –** Fast tracking/prioritizing the intervention to equip · Refocus both supervision on routines and on managers service providers **Resources –** Fast track resourcing to augment • Drive the operational excellence program to at management /supervisory/technical to close embed the culture the gaps based on identified station gaps Additional support required **Procurement Challenges of long lead** • Typically, change programs over several years call **spares -** Devise new and faster ways to effect for constant a re-focusing the teams procurement on long lead items. Now that we New challenges may often require additional know the challenges in the outage space further support to overcome the culture change inertia engagements to happen with Central

procurement

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### Loadshedding

#### **Generation**



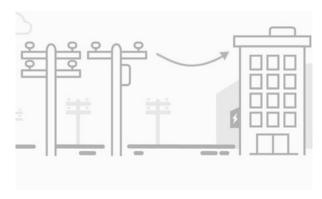
- When there is insufficient generation capacity to meet demand
- Loadshedding implemented to protect the country from a black out

#### **Transmission**



#### **Load Reduction**

#### **Distribution**



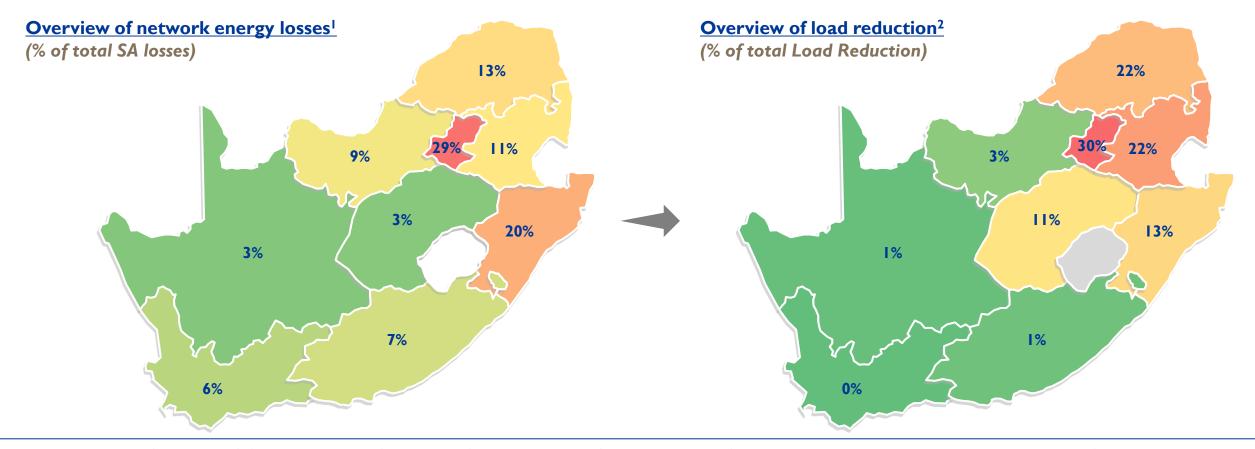
- When the customer demand is higher than what the local equipment can withstand
- Load reduction implemented to protect equipment (transformers) and people (explosions)

Eskom is working together with SALGA and the Ministries to resolve the structural challenges facing the distribution industry

WE NEED COMMUNITIES TO HELP US PROTECT OUR EQUIPMENT FROM CRIMINALITY

# Load Reduction is primarily implemented in provinces with high levels of distribution energy losses





- Load Reduction is a critical and essential proactive measure of asset protection to reduce load and prevent overloading
- Load Reduction is influenced by overloading (linked to theft and condition of distribution network infrastructure)
- Gauteng experiences the highest Load Reduction on average with combined morning and evening peak Load Reduction averaging 179 MW, followed by Mpumalanga (~132 MW) and Limpopo (~103 MW)
- Several interventions continue to be driven to minimise the impact of Load Reduction on South Africa

# Eskom is driving strategic initiatives to minimise load reduction over and beyond the Winter 2025 period, continued support from government and the public is required





Eskom is driving technological interventions

- Roll out of ~7.2 million smart meters over the next 3 years to reduce losses and enable load limiting as opposed to load reduction
- Accelerating Distributed Energy Resources (e.g. microgrids) to alleviate constraints on network



Eskom is working closely with government where partnership is required, specifically on:

- Accelerating the role out of smart meters within municipalities
- Reduction of technical and non-technical losses within municipalities and auditing of networks
- Acceleration of process adoption for Accelerating Distributed Energy Resources connection within municipalities



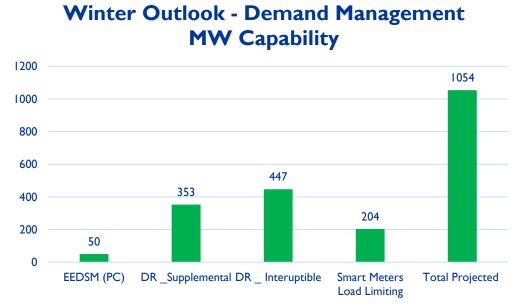
**Continued support** from the **public** is **crucial** to minimise load reduction:

- Reduce load when the system is constrained
- Practice energy efficiency
- Participate in demand reduction programmes where applicable

# The Distribution Demand Management Programme is being implemented to deliver ~I GW over the winter period



- **Demand Side Management (DSM)** Incentive programme targeting evening peak load management and energy efficiency through technological intervention.
- **Supplemental Demand Response (SDR)** Flexible evening peak load reduction programme, participating customers reduce load when called upon.
- **Interruptible agreements** Electricity agreements with participating customers.
- **Smart meters -Load Limiting** Emergency capability, limits customer supply to form 60/40 Amps down to 5 Amps.



#### The implementation of Demand Management provides the following benefits:

Optimising the national system profile via demand management products

Reduce the usage of diesel costs especially during evening peak times.

Optimise cost of energy through transfer pricing during peak periods.

Mitigation tool to reduce the impact of load shedding

10% of all Government Buildings (>1 000 m<sup>2</sup>) to display an Energy Performance Certificate (EPC). Eskom has committed to comply with EPC requirements.

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### Our strategy pivots Eskom into a sustainable and competitive Company while leading the transformation of the Electricity Supply Industry



Commercial mandate Assist in lowering the cost of doing business in SA, enabling Economic growth

**Our Mandate** 

Social mandate Providing Electricity in an efficient and sustainable manner

**Our Vision** 

**Our Purpose** Powering growth sustainably

Sustainable power for a better future

#### **Shareholders Priorities**

Achieve Universal Access. Availability, Affordability and Quality

Attain sovereign and regional energy security

Drive industrialisation and lead innovation

Qualitatively transform energy demographics; elevate role of women and youth

Assert SA, continental and global energy leadership

#### **Eskom Strategic Objectives**



Pursue financial and operational sustainability

- Recover and sustain EAF to 70% in the long term
- Implement innovative solutions including Distribution Agency Agreement to reduce municipal arrear debt & energy losses
- Rebase costs, maximise profitability
- Strengthen leadership stability and upskill & reskill employees for future opportunities



Facilitate a competitive future energy industry

- Define **Eskom's role** in the energy transition and in the future
- Operationalise Dx, establish NewCo and operationalise Gx
- Fine-tune Gx and Dx business models. to improve customer centricity
- **Drive clean energy** project development through the establishment of **RECo**
- Develop Eskom's PSP/PPP model and unit



Modernise our power system

- Accelerate TDP execution incl. alternative funding models
- Strengthen **Distribution network** infrastructure incl. smart meters and microgrids rollout
- Increase flexibility of power system infrastructure
- Develop and implement digitalisation strategy



Strive for net zero emissions by 2050

- Drive Komati, Grootvlei, Hendrina, Camden repowering and repurposing initiatives
- Collaborate with government on Minimum Emissions Standards and environmental compliance
- **Participate in Distributed** Energy Resources (DERs) and drive eMobility

Entrench a high-performance ethical culture, innovation and agility

**OUR VALUES:** 

Use data analytics to create value and enhance decision making

Improve controls & governance processes to address fraud, corruption and criminality

Obtain unbundled tariffs approval (NERSA)

Drive socio-economic transformation

Zero Harm



Integrity



Innovation





**Customer Satisfaction** 



# Eskom is focusing on key strategic areas to become an investable, sustainable and competitive company while ensuring security of supply



|  | Key focus area                    | Description  |     |
|--|-----------------------------------|--|-----|
|  | Turnaround<br>and<br>loadshedding | <ul> <li>Implementing operational recovery, strengthening governance to future proof the organisation (ending loadshedding, reducing costs, investing in future expansion)</li> <li>Enabling energy security, growth and long-term sustainability to the benefit of South Africa and sub-Saharan Africa</li> </ul>                                 |     |
|  | People and performance            | <ul> <li>Providing employees with a vision and purpose to their work which creates an environment for success</li> <li>Re-focussing on people through leadership with a high challenge, high support culture</li> <li>Reversing complacency and taking action to address systemic issues</li> </ul>  |     |
|  | Long term sustainability          | <ul> <li>Developing a meaningful pipeline of clean energy projects (~5.9 GW by 2030)</li> <li>Accelerating the implementation of the Transmission Development Plan</li> <li>Restructuring of electricity tariffs and rolling out smart meters for effective revenue collection, while minimising the impact on consumers and the fiscus</li> </ul> |     |
|  | Balanced<br>transition            | <ul> <li>Pursuing Just Energy Transition strategy as a considered approach towards<br/>transitioning from high emitting sources of energy towards cleaner energy without<br/>jeopardising socio-economic welfare</li> </ul>  | V V |

#### In Conclusion



- We have seen a positive trend in the reduction of unplanned load losses, leading to 352 loadshedding free days between I April 2024 and 31 March 2025
- The Winter 2025 unplanned losses outlook has been revised downwards (I GW 2 GW improvement), indicating no loadshedding to be expected if unplanned losses remain below I3GW
- Through disciplined execution, dedication of our people and support from various stakeholders, our Generation Recovery Plan will continue to deliver good results
- We again apologise for the few temporary setbacks. The performance has laid a good foundation to implement our strategy towards an investable, competitive and sustainable Eskom
- Over the coming months, we will continue providing updates against the implementation of our strategic initiatives
- We would like to thank all stakeholders, especially the <u>Eskom Guardians</u> for their hard work and dedication in moving Eskom towards success

#WeCanEndLoadsheddingTogether







Question & Answer session

## Solar registration fees continue to remain zero for the majority of Eskom's residential customers and include a free smart meter until March 2026



#### **SSEG** registration

SSEG including PV installations are to be registered with the relevant supplier as per NERSA requirements.

#### **Connection Charges**

- Urban Residential and up to 50kVA: No registration fees and a saving of ~R9 132 on connection charges including a free SMART meter since March 2023 until March 2026.
- Other SSEG: No increase as they are to pay last year's connection charges from I April 2025.

#### **Applicable Tariffs**

Residential : Homeflex

Urban : Miniflex

Rural: Ruraflex

> Generators: Gen DUoS, Megaflex Gen or Ruraflex Gen

#### **Credits for exported energy**

- Gen-Wheeling, Gen-offset and net-billing rates.
- Credits for energy exported on time-of-use on the customer bills.

#### Non-residential or >50kVA additional scope

- Once-off application and connection fees are payable to recover the cost of technical studies and compliance checks to ensure safe grid integration.
- Payment for a smart meter which is compatible with the TOU tariff

Note: Customers with a grid-tied generator connection must comply with NERSA's registration requirements, regardless of whether they export electricity to the grid or not.







Ensure compliance to legal and regulatory requirements.



Ensure compliance to Eskom and South African Bureau of Standards (SABS) technical & contractual requirements.



Ensure compliance with the safety regulations / policies that ensure the safety of people, animals, and equipment.

For more information visit https://www.eskom.co.za/distribution/small-scale-embedded-generators/