MYPD 6 Application

NERSA Public Hearings

20 November 2024

The Eskom Strategic turnaround is based on four strategic objectives to deliver the organisation's dual mandate

Eskom

Commercial mandate
Providing electricity in an efficient and sustainable manner

Our Mandate

Social mandate
Lower the cost of doing business in South Africa, enabling economic growth

Our Vision
Sustainable power for a better future

Our Purpose
Powering growth sustainably

Strategic objectives

Pursue financial and operational sustainability

- Implement Gx recovery plan - EAF to 70% by March 2025
- Reduce arrear debt & energy losses
- Rebase costs, achieve profitability
- Improve controls to address fraud, corruption and criminality
- Leadership stability, skills development

Facilitate a competitive future energy industry

- Operationalisation of Dx; followed by Gx
- Fine-tune Gx and Dx business models
- Accelerate clean energy project development

Modernise our power system

- Accelerate TDP execution incl. alternative funding models
- Modernise Distribution network development inc. smart meters and microgrids
- Increase flexibility of power system infrastructure

Strive for net zero emissions by 2050

- Accelerate Komati, Grootvlei, Hendrina, Camden repowering and repurposing initiatives
- Implement optimised emissions reduction technology to achieve MES compliance
- Participate in Distributed Energy Resources and drive e-mobility

Create high-performance ethical culture	Use data analytics to create value and enhance decision making	Improve procurement & governance processes	Obtain unbundled tariffs approval (NERSA)	Drive socio-economic transformation

OUR VALUES: Zero Harm | Integrity | Innovation | Sinobuntu | Customer Satisfaction | Excellence

Basis of Eskom revenue application

Background

- The Multi-Year Price Determination (MYPD) 5 revenue determination period comes to an end on 31 March 2025
- **Revenue applications are guided by the Electricity Pricing policy (EPP), Electricity Regulation Act (ERA) and NERSA's MYPD methodology (2016)**
  - Must enable an efficient licensee to recover the full cost of its licensed activities, including a risk adjusted return
  - Ensure Eskom's sustainability as a business and limit risk of excess or inadequate returns, while providing incentives for new investment
  - Eskom is required to make a compliant application in terms of the MYPD methodology
- Eskom wishes to be in a position to continue to provide an electricity service to customers
- Based on forecasts which serve as assumptions that correspond to a revenue requirement
  - **Eskom has motivated the application using the latest projections**
- Revenue determination is made by NERSA based on assumptions
  - Variances between determinations and actuals are addressed after the FY through the Regulatory Clearing Account (RCA)
  - In practice, the RCA process has risks with recovery of efficient variances 3 to 6 years after expenditure incurred
- **Have considered impact on consumer by phasing of return on assets for migration towards cost reflectivity at revenue level**
- Have made ringfenced revenue applications for Generation, NTCSA (Transmission) and Distribution
  - Expect NERSA to make ringfenced revenue determinations to facilitate unbundling
- The Electricity Regulation Amendment Act (ERAA) has been signed into law by the President on 16 August 2024, and is awaiting announcement of the effective date
  - Await NERSA transitional arrangements to plot way forward
- The Retail Tariff Plan to restructure the tariff is currently being consulted on

Eskom's application is only for efficient costs

The guiding legislation (ERA) allows only for the recovery of efficient costs

NERSA has various requirements to ensure that only efficient costs are applied for

- NERSA requires the MYPD methodology to be followed and provides detailed guidance on how an application is to be made
- NERSA requires the prudency assessment criteria to be applied, as applications are made
- Eskom provides detailed information that supports its application

NERSA makes assessments for efficient costs

- These are based on the MYPD methodology and prudency criteria
- It is expected that NERSA will also make decisions within these regulatory frameworks and provide the relevant benchmarks, comparisons and motivations
- NERSA also provides reasons for its decision

Corruption and fraud continues to be addressed

- Eskom is making every effort to ensure that processes are in place to address possible fraud and corruption
- NERSA has provided guidance on addressing any recoveries

NERSA methodologies allows Eskom to recover only efficient costs through tariffs to be charged to customers

Eskom

Regulatory framework for tariff determination

Revenue Level

1 MYPD (decision Dec-24) + RCA

Determination of the required level of annual revenue, typically known as the revenue requirement

- Cost + return Gx, Tx, Dx and retail
- Volume
- Average price and price increase

Tariff Structure

2 Cost to serve/supply

Apportionment of revenue among customers with distinctions made between customer-, demand- and energy-related costs classes

- Cost to serve
- Cost functionalisation Gx, Tx, Dx and retail
- Cost causation and cost drivers
- Cost reflective unbundled unit costs

Tariff Level

3 ERTSA (decision Mar-25

Individual prices, formally known as tariffs or rates, are designed in order to collect the assigned level of revenue from each class

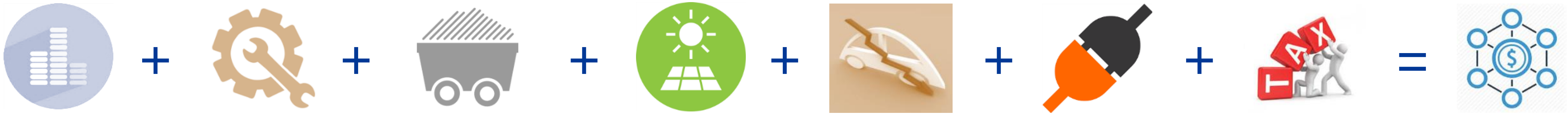
- Tariff design
- EPP, Codes, Strategic provides direction
- Design - unbundled or bundled, affordability
- Once approved by NERSA implementation

Retail Tariff Plan – restructure of tariffs to best reflect the costs for each function (**decision expected Jan-25**)

NERSA's MYPD methodology requires Eskom to provide costs in terms of this allowable revenue (AR) formula

$$AR = (RAB \times WACC) + E + PE + D + R\&D + IDM + L\&T$$

Return on Assets + Operating expenditure (incl R &D) + Primary Energy (incl imports and DMP) + IPPs + Depreciation + Integrated Demand Management + Tax & Levies = Revenue



Return on assets = % cost of capital allowed X depreciated replacement asset value

This internationally recognised methodology, if implemented (even in a phased manner) would allow for recovery of efficient costs and a fair return

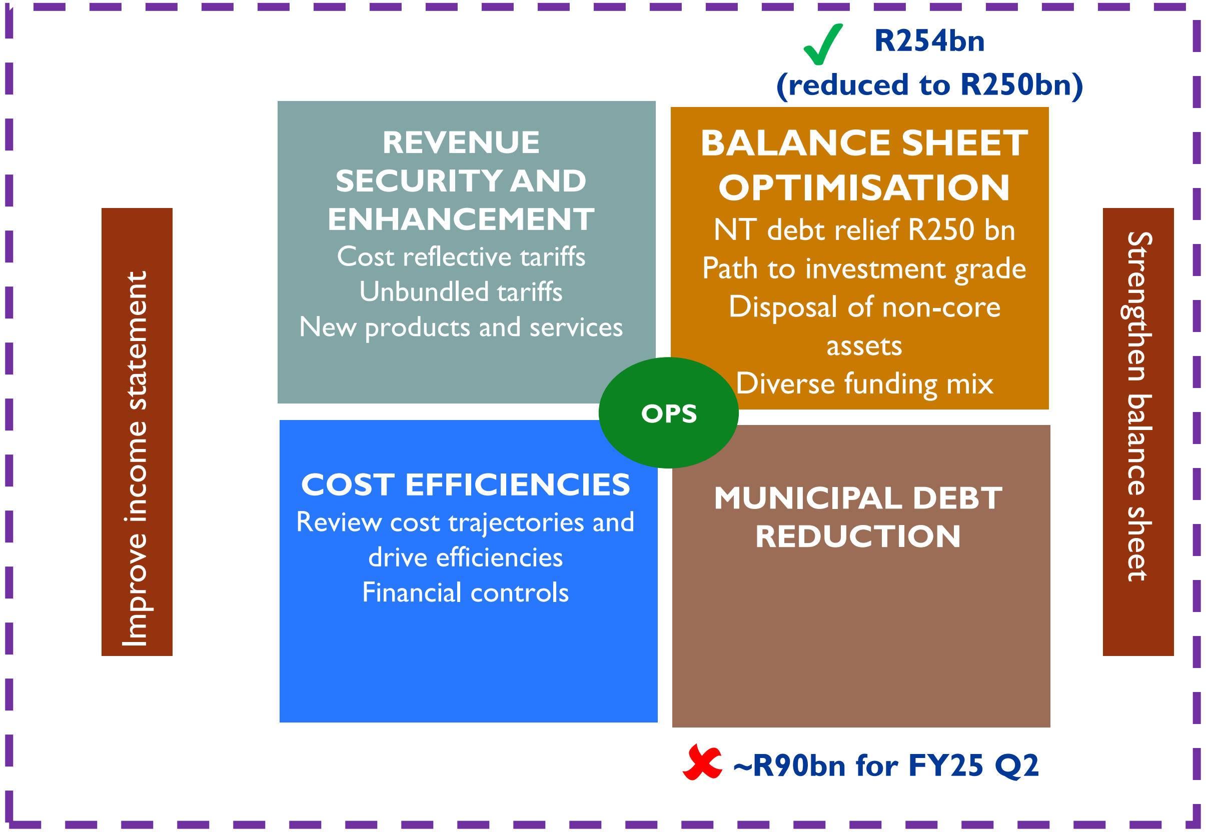
Eskom allowable revenue required to supply electricity for the period FY2026 to FY2028

Allowable Revenue (R'millions)	AR	Formula	Decision FY2025	Application FY2026	Application FY2027	Application FY2028	Post Application FY2029	Post Application FY2030
Regulated Asset Base (RAB)	RAB		988 345	1 066 724	1 192 878	1 219 244	1 243 078	1 278 277
WACC %	ROA	X	1.58%	4.00%	5.00%	6.00%	7.47%	9.69%
Returns			15 616	42 669	59 644	73 155	92 908	123 916
Primary energy	PE	+	92 816	128 000	133 061	128 869	129 492	134 119
International purchases	PE	+	9 334	10 262	9 737	13 656	11 853	12 387
IPPs	PE	+	76 970	66 633	77 640	109 820	135 510	140 943
Environmental levy	L&T	+	6 503	6 539	6 279	5 337	4 781	4 767
Carbon tax	L&T	+	-	5 534	21 291	19 895	19 274	20 948
Arrear debt	E	+	-	8 914	9 917	10 752	12 037	13 310
Operating costs	E	+	61 442	93 315	93 834	97 864	100 152	105 100
Depreciation	D	+	73 376	66 931	69 952	77 431	79 685	85 961
MYPD6 Allowable Revenue			**336 057**	**428 798**	**481 355**	**536 778**	**585 691**	**641 450**
Add: Approved RCA/court order for liquidation	RCA		16 109	16 765	14 000	-	-	-
TOTAL MYPD6 Allowable Revenue	**R'm**		**352 166**	**445 563**	**495 355**	**536 778**	**585 691**	**641 450**

The tariff increase is a key component to achieving Eskom's financial turnaround

Eskom

Pillars of our financial strategy



Key risks

1 **Tariff**

2 **Gx plant performance**

3 **IPP delays**

4 **Municipality non-payment**

5 **Unsustainable borrowings on the balance sheet**

Insights

- Four pillars to financial recovery: (1) **Revenue security, (2) debt reduction, (3) cost containment and (4) reduction in municipal non-payment**
- We have implemented **cost efficiencies** in our cost base, for the last 3 financial years. To date operational performance has led to reduce diesel expenditure.
- The **debt relief** allowed the business to manage its high debt service costs and cash, to allocate the financial resources needed for Generation (to address the maintenance backlog and adequately prepare for outages). This served as the critical precursor for improved plant performance and financial recovery
- **Limited success with the Municipal Debt Relief programme** with low adherence to the debt relief conditions. Municapal debt including metros **growing by more than R12 bn/annum**
- All four pillars need to be addressed at the same time if Eskom is to become financially independent

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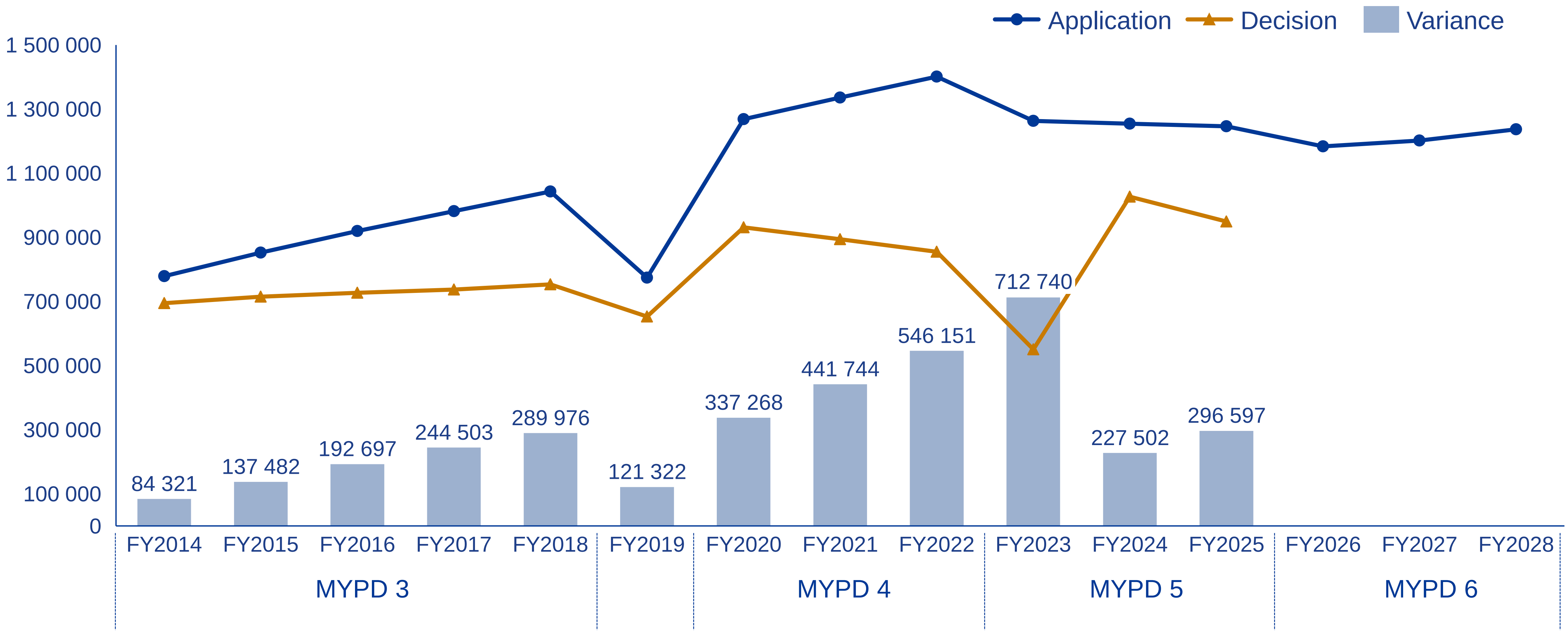
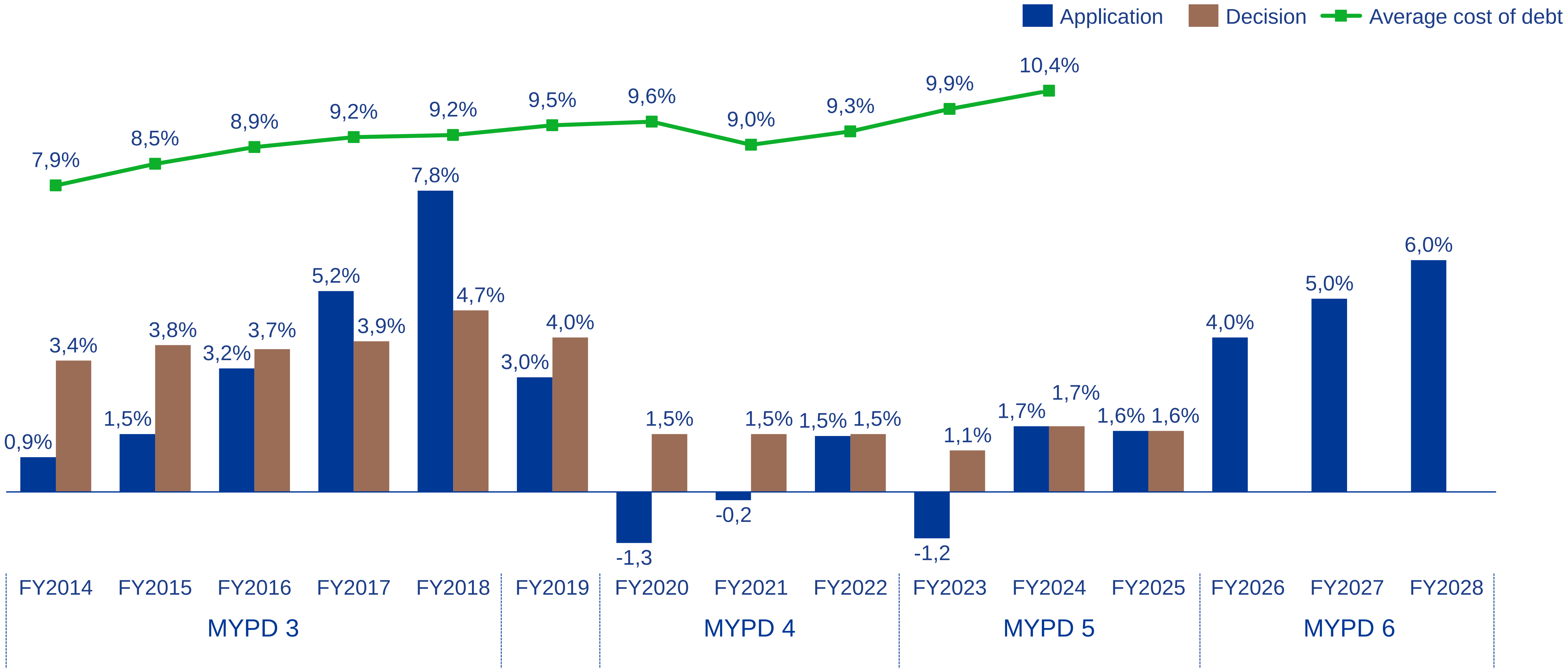
The difference between Eskom's application and NERSA's decision for RAB



Return on Assets Applied vs Decision (%)



Eskom's average cost of debt far exceeds the return on assets that have been allowed

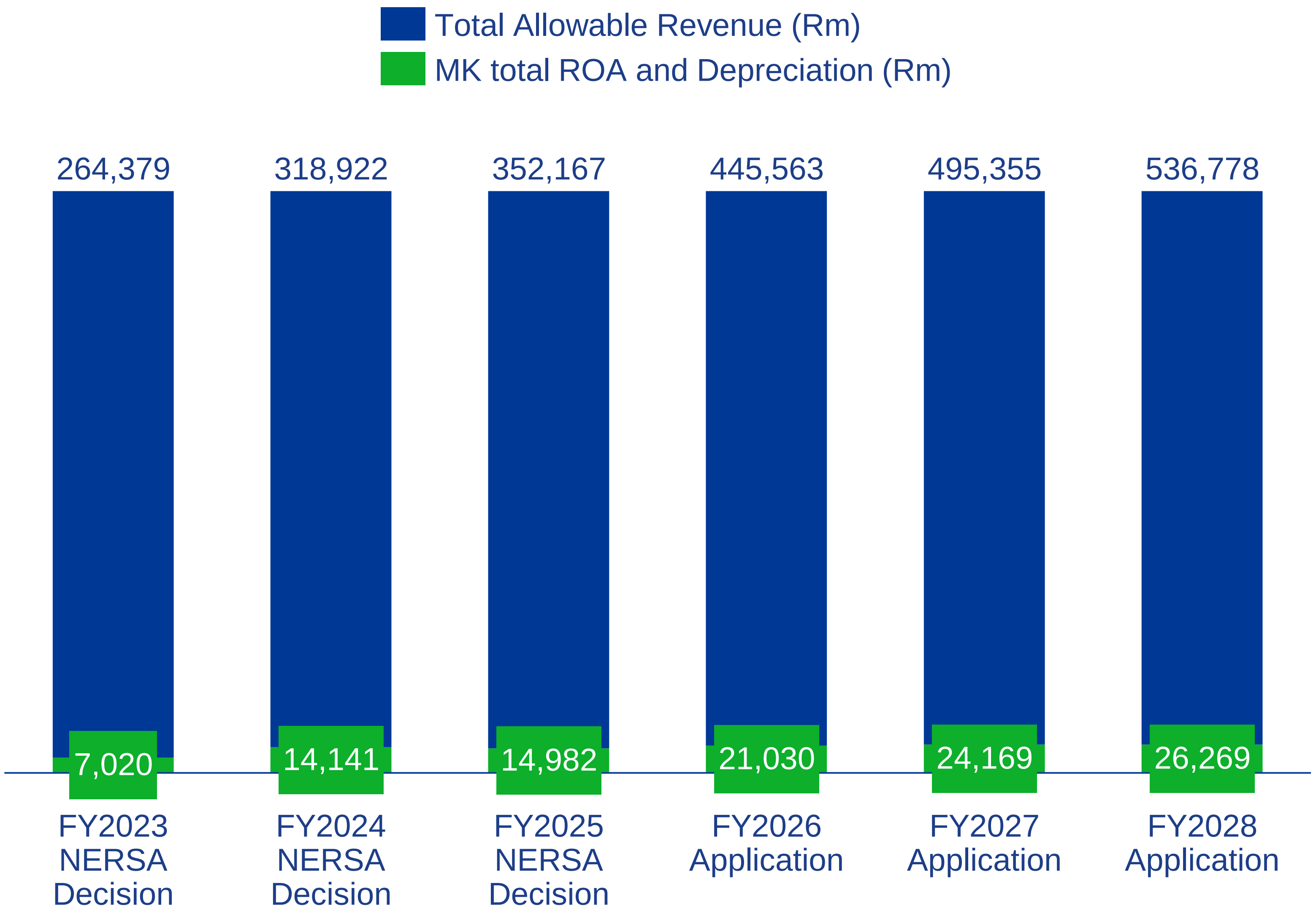
Regulatory Asset Base Valuation Methodology

- The NERSA methodology requires a valuation of the existing operational assets
- The RAB refers to the Generation, Transmission and Distribution and related assets used for the provision of electricity services
- In line with the EPP and the methodology the **RAB is valued at a depreciated replacement value**
- **To determine this** both Eskom and NERSA are **guided by benchmarks** developed by reputable **international institutions**
- Eskom makes an application for the value of its **RAB based on benchmarks** that also consider the South African requirements
- **NERSA**, when it analyses Eskom's application, **also refers to such benchmarks**
- It needs to be pointed out that **capital expenditure projections** that Eskom makes are also **analysed by NERSA**
- This analysis then allows for the determination of the RAB value by NERSA
- **Eskom** is then required to **determine the depreciation and return on assets** (based on a calculation set-out in the methodology)
    - included in the determination of the allowable revenue related to capital expenditure
- **NERSA will further evaluate** these revenue requirement before a final decision is made

It needs to be pointed out that the RAB value, as determined by NERSA is based on benchmarked analysis

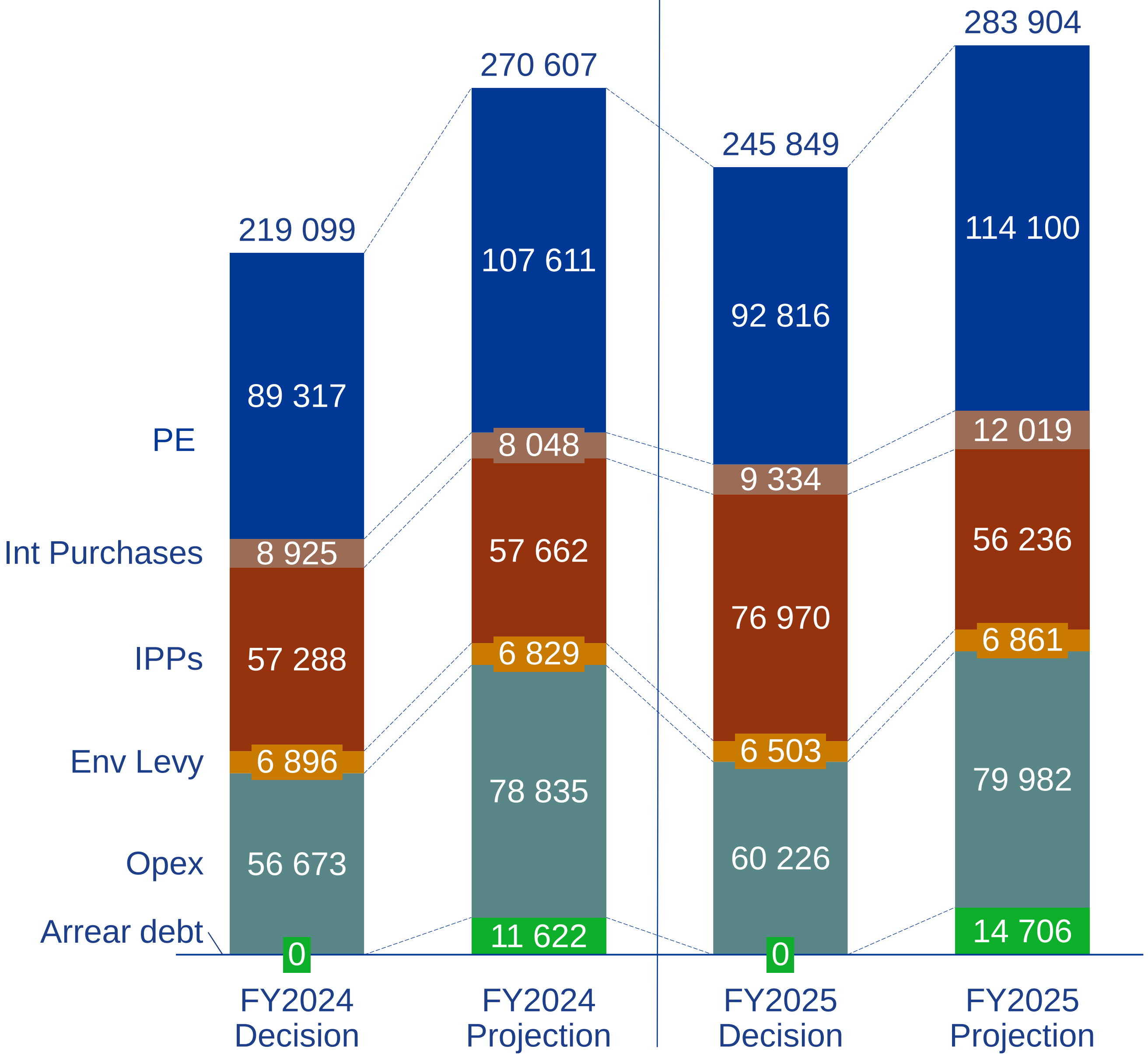
Medupi and Kusile capital cost recovery from customers based on independent and NERSA valuation of RAB

All the units for Medupi are commissioned while Kusile Unit 6 will be commissioned over the MYPD 6 period



- ~8600 MW of capacity by the end of the MYPD 6 period
- The RAB value, as determined by NERSA is based on benchmarked analysis; not based directly on Eskom's spend
- Thus, any inefficient spend, as determined by NERSA is not allowed for recovery from the consumer

Spike in FY2026 application due to FY 24 & 25 reality being different compared to the NERSA decision



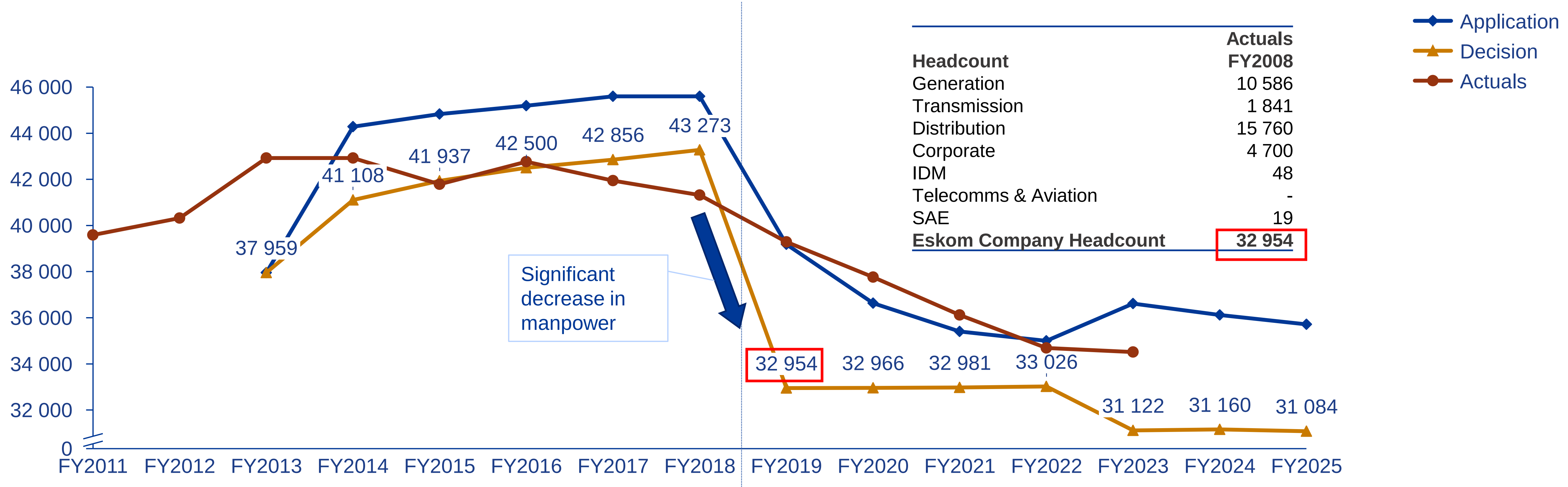
- ❑ A gap is seen between NERSA decision and realistic projections for FY2024 and 2025
- ❑ Eskom is required to continue to provide electricity to the extent possible – whether NERSA decisions support or not
- ❑ If NERSA's previous decisions were insufficient – this shortfall requires catch-up in FY 2026
- ❑ Main drivers:

  Coal
  - Coal production was 14TWh more than the FY25 NERSA decision to FY25 projection. Filling the gap for IPPs
  - Mining inflation and related cost drivers are different to general inflation
  - Replacement of coal supply from contracts that have ended, or reserves mined out creates a step change in pricing
  - Amortization of capital expenditure for long term agreements where the remaining tenure is now shorter compared to past

  Start-up gas and oil
  - Increased utilisation to minimise load shedding

  Opex
  - Employee requirements to meet business needs
  - Further maintenance required in accordance operational recovery plan
  - Other opex decision did not cater for operational sustainability
- ❑ **This contributes to the spike for FY 2026 application**

Employee numbers have reduced since over last few years , there is a gap in FY 2023

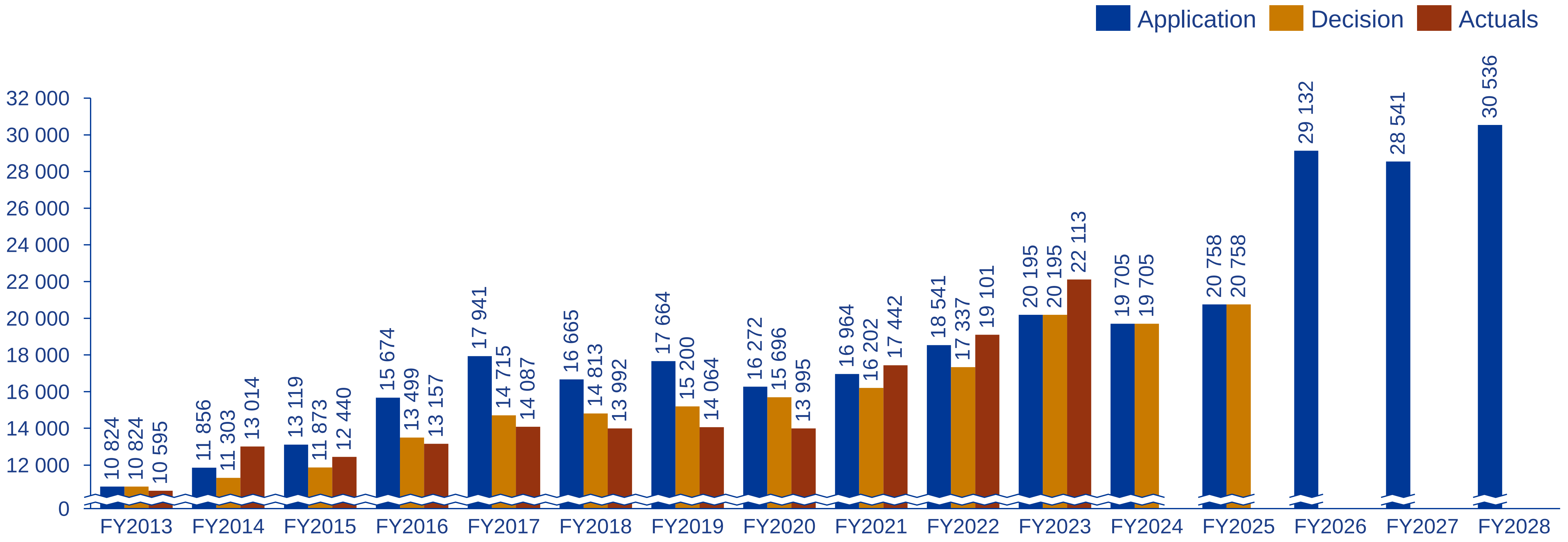


Headcount	Actuals FY2008
Generation	10 586
Transmission	1 841
Distribution	15 760
Corporate	4 700
IDM	48
Telecomms & Aviation	-
SAE	19
Eskom Company Headcount	**32 954**

- Over the MYPD 2 NERSA allowed for employee numbers to increase in line with new build programme
- Over the MYPD 3 this reasoning was maintained for GTD
- However, in this period Eskom restructured to centralised business functions which resulted in an increase in corporate manpower which NERSA did not allow in MYPD 3

- In the FY2019 decision, NERSA reverted to FY2008 as a basis for assessment on manpower, note this is pre-new build programme
- The significant drop in manpower was unrealistic for Eskom to meet especially considering that these are contracted positions approved in MYPD 3
- Eskom successfully reviewed this in the High Court
- However, subsequently NERSA have maintained a similar outlook on employee numbers and have kept it consistently low

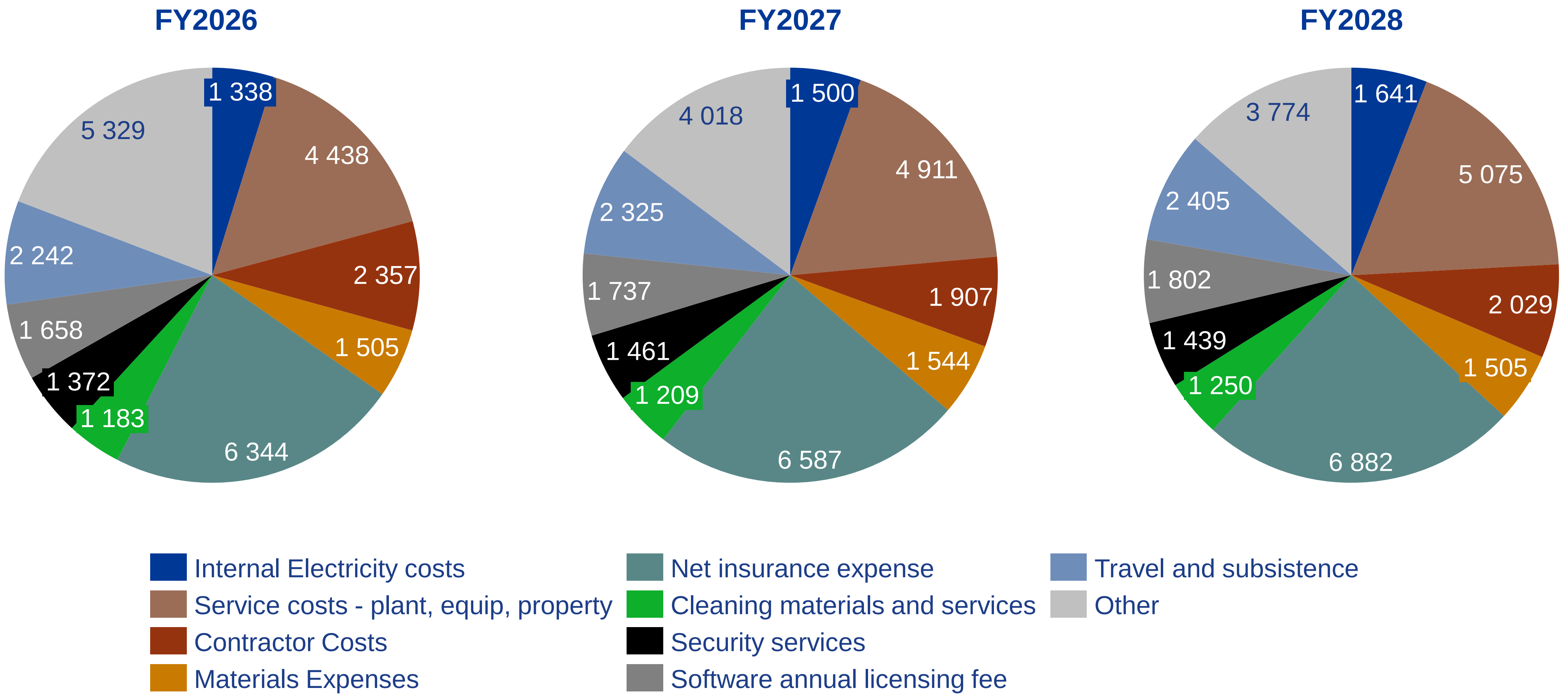
Maintenance is required to sustain operations NERSA has allowed this in their MYPD5 decision



- Further maintenance required in accordance Generation operational recovery plan – 8 priority stations
- Requirement for continued operations –move from shift from “shut down” of older power stations
- More Kusile units operational
- Koeberg long-term outage

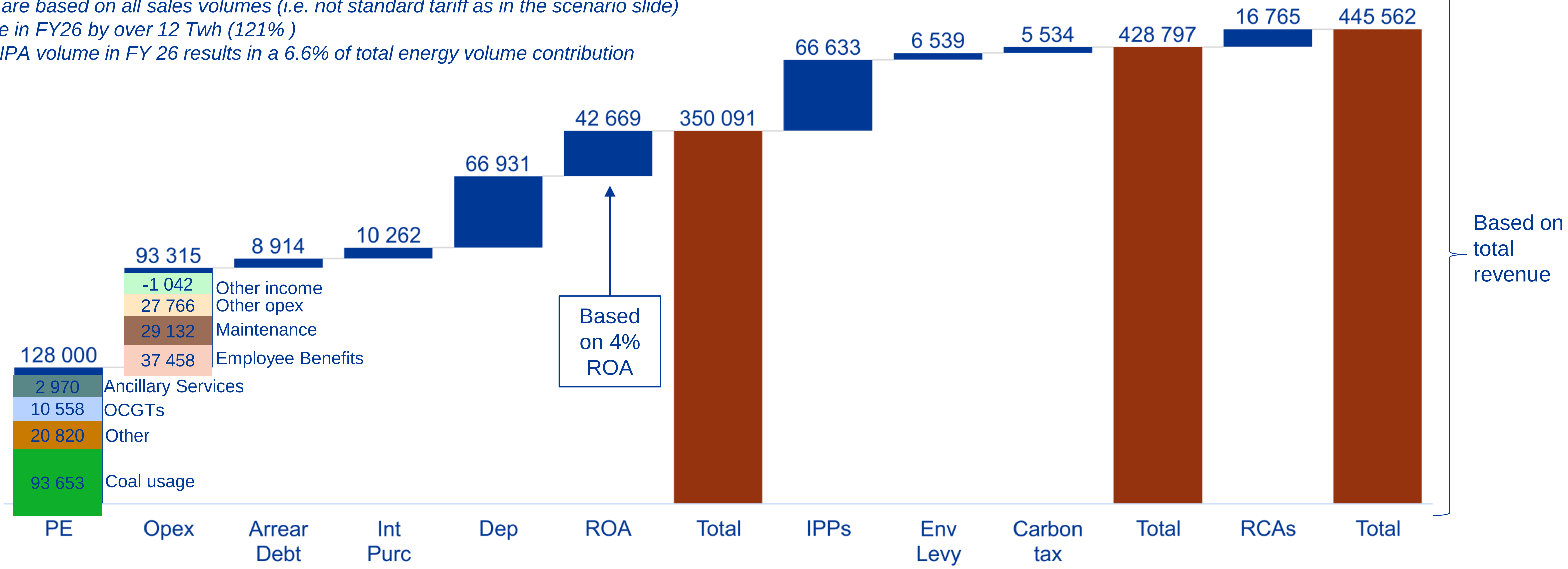
Other operating cost split into cost items (Rm)

Cost splits are only items that are greater than R1 billion



FY2026 revenue build-up and contributions to total price increase

- *The FY26 % increase is in comparison to the FY 25 NERSA decision*
- *Please note that slight differences will be noted in actual % increases due to change in volumes. This provides an indicative contributor to overall increase*
- *Calculations are based on all sales volumes (i.e. not standard tariff as in the scenario slide)*
- *NPA increase in FY26 by over 12 Twh (121%)*
- *Increase in NPA volume in FY 26 results in a 6.6% of total energy volume contribution*



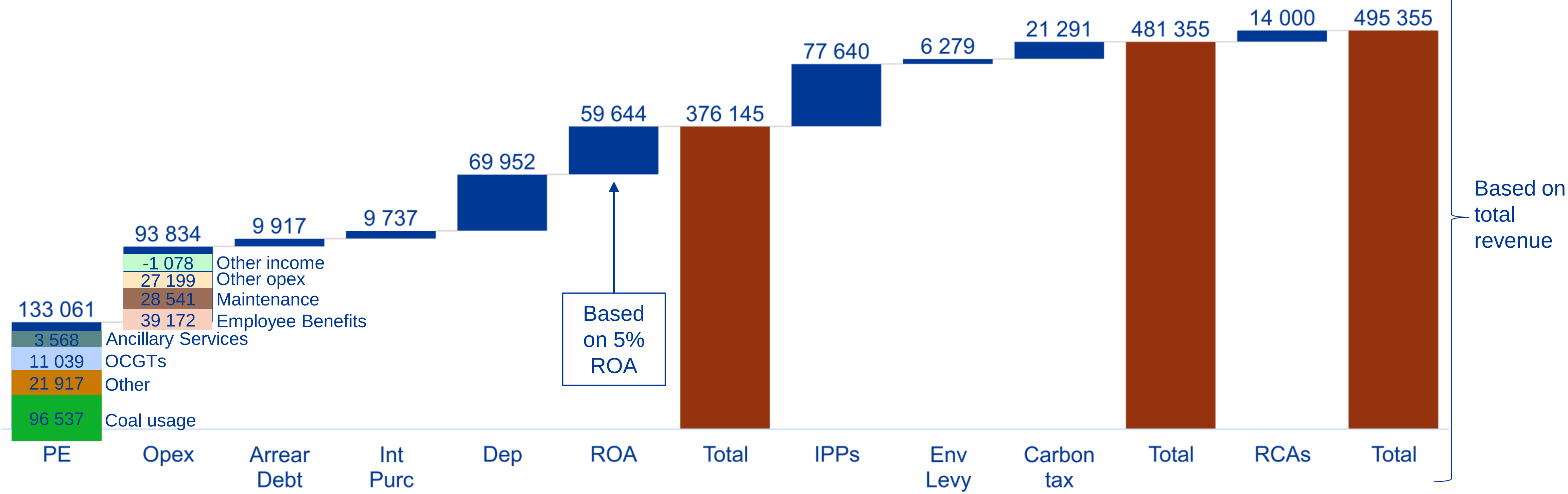
NPAs	PE	Opex	Arrear Debt	Int Purc	Dep	ROA	Total	IPPs	Env Levy	Carbon tax	Total	RCAs	Total
5.7%	11.2%	10.3%	2.6%	0.4%	-1.2%	7.9%	36.9%	-2.3%	0.1%	1.6%	36.3%	-0.2%	36.2%

Year-on-year % contributions to price increases based on standard tariff revenues and volume

Note: 1) Primary Energy (PE) includes Ancillary Services; 2) Int Purc - International Purchases; 3) Dep – Depreciation 4) ROA – Return on Assets; 5) IPPs – Independent Power Producers; 6) Env Levy – Environmental Levy; 7) RCAs – Regulatory Clearing Account

FY2027 revenue build-up and contributions to total price increase

- *The FY27 % increase is in comparison to the FY 26 NERSA decision*
- *Please note that slight differences will be noted in actual % increases due to change in volumes. This provides an indicative contributor to overall increase*
- *Calculations are based on all sales volumes (i.e. not standard tariff as in the scenario slide)*



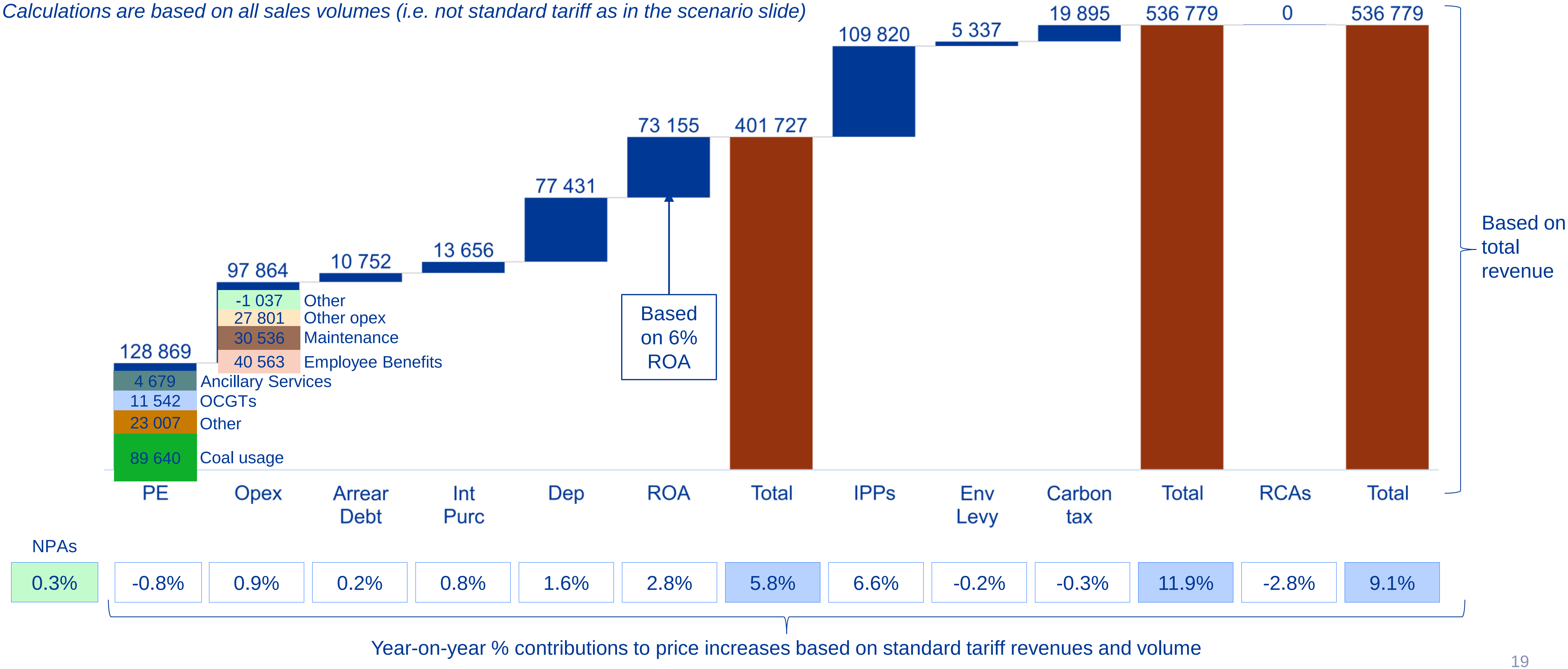
NPAs													
-1.3%	1.5%	0.4%	0.3%	-0.1%	0.9%	4.0%	5.9%	2.7%	0.0%	3.6%	12%	-0.2%	11.8%

Year-on-year % contributions to price increases based on standard tariff revenues and volume

Note: 1) Primary Energy (PE) includes Ancillary Services; 2) Int Purc - International Purchases; 3) Dep – Depreciation 4) ROA – Return on Assets; 5) IPPs – Independent Power Producers; 6) Env Levy – Environmental Levy; 7) RCAs – Regulatory Clearing Account

FY2028 revenue build-up and contributions to total price increase

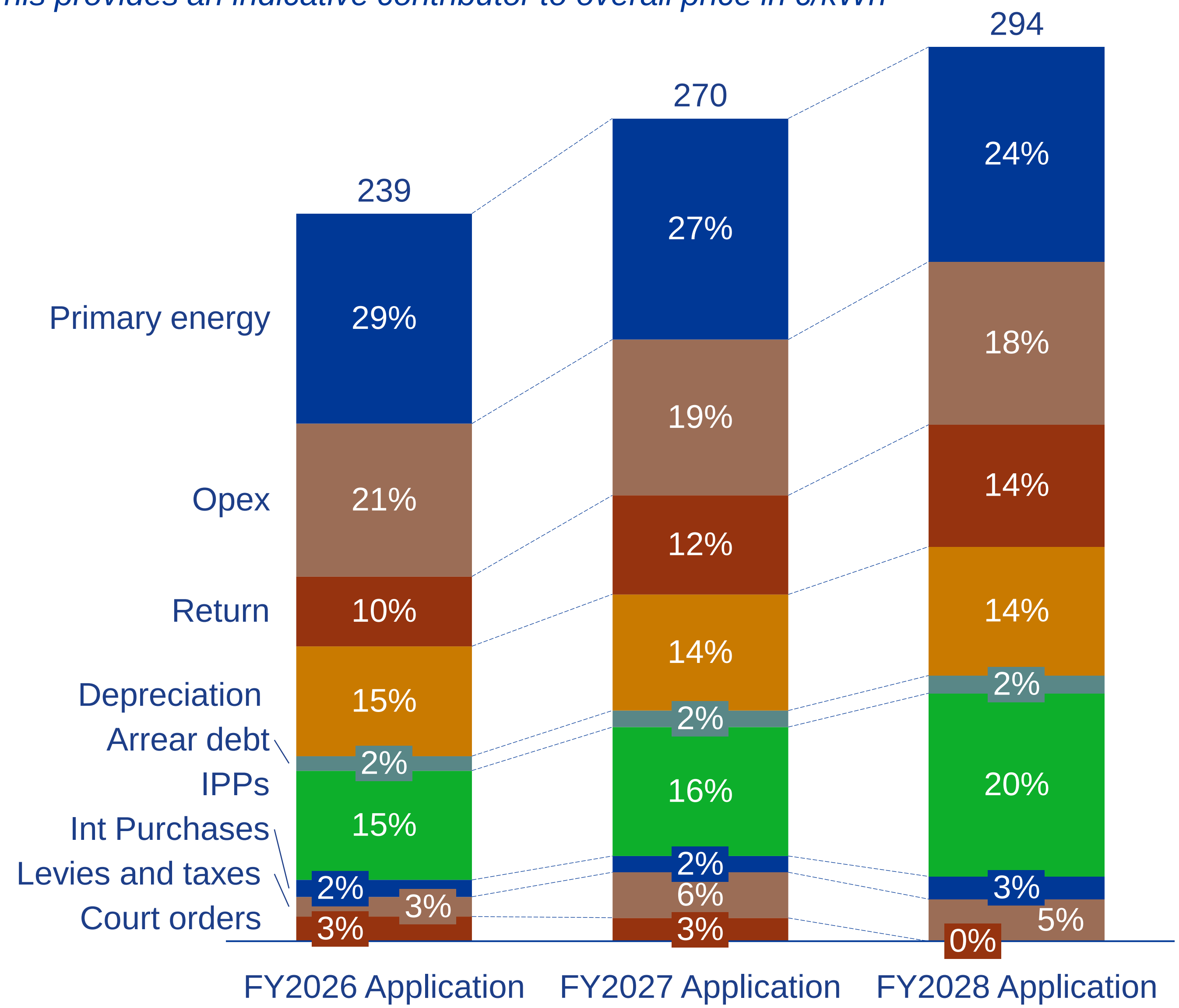
- *The FY28 % increase is in comparison to the FY 27 NERSA decision*
- *Please note that slight differences will be noted in actual % increases due to change in volumes. This provides an indicative contributor to overall increase*
- *Calculations are based on all sales volumes (i.e. not standard tariff as in the scenario slide)*



Note: 1) Primary Energy (PE) includes Ancillary Services; 2) Int Purc - International Purchases; 3) Dep – Depreciation 4) ROA – Return on Assets; 5) IPPs – Independent Power Producers; 6) Env Levy – Environmental Levy; 7) RCAs – Regulatory Clearing Account

Cost contributors to c/kWh and percentage of average tariff

NB: This provides an indicative contributor to overall price in c/kWh



- Eskom management has a role to play in ~50% of the total costs
  - Within the 50% - are many multi-year contracts (prudently undertaken eg coal, employment, maintenance) legislative impacts (regulated diesel, water, fuel oil costs)
- Externally decided costs are:
  - Depreciation - based on NERSA formula
  - ROA - based on NERSA formula and does not reach Eskom WACC
  - IPPs - Govt programme
  - Environmental levy
  - Carbon tax
  - NERSA Court decisions
  - Arrear debt - mainly Munics

Measures for low-income households to have access to affordable electricity

The Government electrification programme

Facilitation of access (cost of connecting a house) to a 20A (low consumption) electricity supply.

- This complements an already subsidised tariff.

Free basic electricity (FBE)

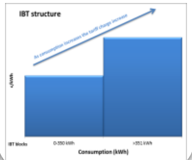
Social grants provided directly to customers through Free Basic Electricity of 50 kWh per household per month by national government to the indigent through the Equitable Share Fund

- Eskom provides FBE to customers in their area of supply as an agent for the municipalities

Subsidised Eskom tariff

For the MYPD3 period and subsequently the increase on the Homelight 20A customers (lifeline tariff) was lower than the average increase. Lower than 18% by 8% at 10%. Includes affordability subsidy (price level) and ERS subsidy (networks)

- Subsidised by direct Eskom large urban customers through the **affordability subsidy**
- The continual implementation from this lower base allows for extension of an effective subsidy
- Average Homelight 20A subsidy in FY25 was 144c/kWh of total 334c/kWh - a 43% subsidy. (Source FY2025 CTS study)



NERSA Inclining Block Rate (IBT)

The IBT was implemented by NERSA to cushion low-income households that use very little electricity.

- Eskom believes that the IBT as it is currently structured does not sufficiently target low-income households and places an unsustainable subsidy responsibility on urban customers
- IBT lowers the price and the key issue is the stepped increase above 350kWh that also makes it difficult to understand

Protecting the poor residential customer – Implementation requirements

Ensuring that Government policies are implemented

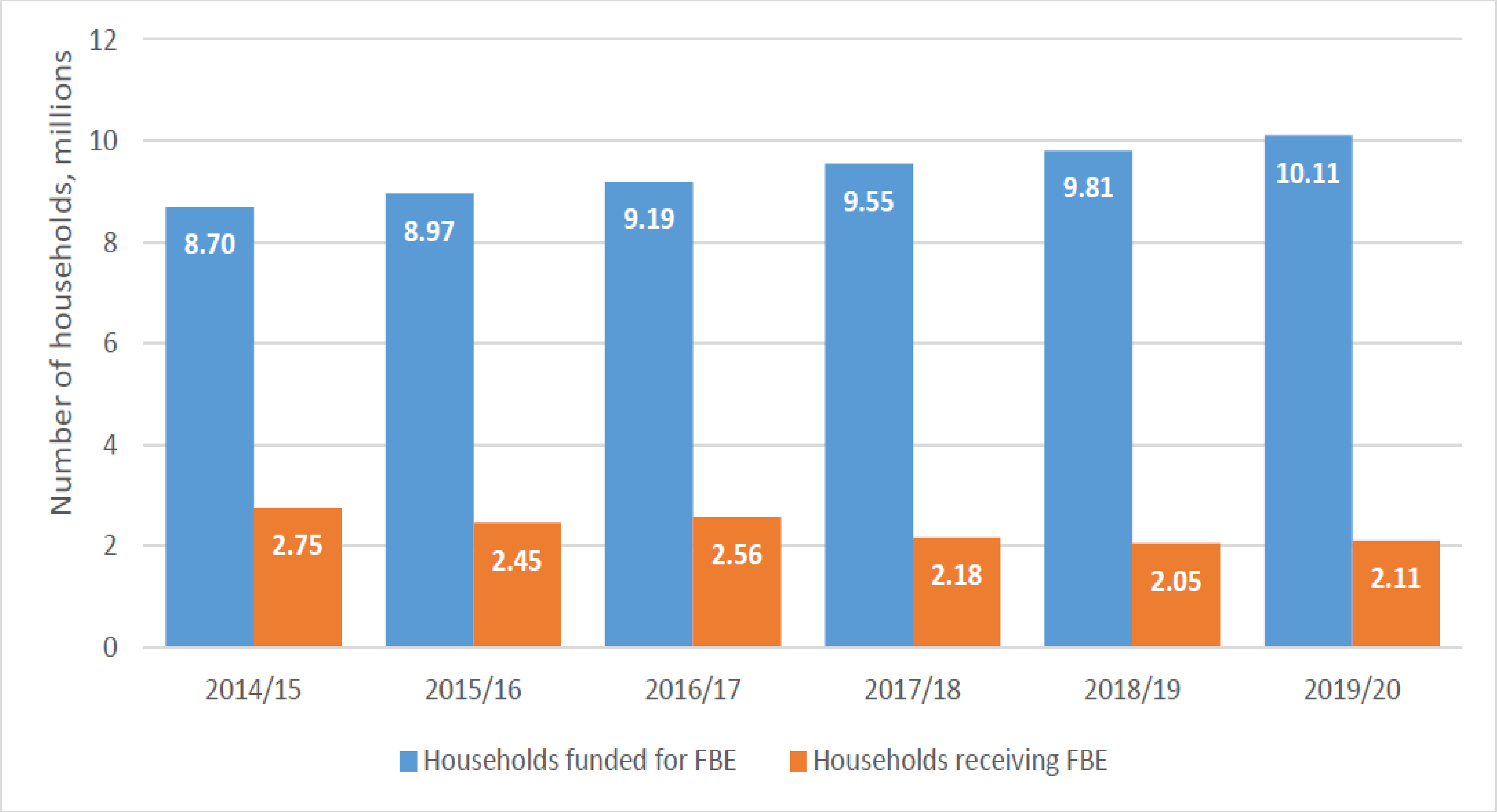
- The electrification programme is still underway
    - Government has a detailed programme in place to ensure that further areas are electrified
- It has been reported that the FBE of 50kWh is not being implemented to all relevant recipients
    - The Reserve Bank study indicates that only about 2 million recipients of a potential 10 million receive their FBE (2021)
    - Only Municipalities determine eligible recipients (indigent registers) – even if Eskom customers
    - Additional efforts are required to ensure that further recipients are identified
    - This is potentially a priority for NECOM to consider
    - The Government Departments will also have a role to play

Possible further policy changes that could be considered

- Eskom's Retail Tariff Plan (RTP) has made proposals to changes to the Inclining block tariff
    - To improve the benefit to poor residential customers, Eskom proposes **removing the IBT structure** and replacing it with a single energy rate charge for Homelight 20A customers.
    - This implies that converting the residential lifeline tariff, Homelight 20A into a single c/kWh energy rate.
    - This will protect the poor where an increased rate will not be paid by poor residential customers (for the second block)
    - This will further support poor residential customers
- The Government has indicated that protecting the poor is priority – other initiatives could be considered

Majority of FBE customers who should qualify are not being served by municipalities

Figure 15: Underspending in free basic electricity



Source: Ledger (2021).

- Municipalities are responsible for recognition & administration of customers who qualify for FBE for Municipal and Eskom customers
- Municipalities have only recognized ~20% of qualifying customers. Majority customers who should qualify are not being allocated by municipalities
- Eskom provides FBE to customers identified for FBE by Municipalities
- In subsequent years situation has worsened
    - FY 2021 – 1 654 160 households
    - FY 2022 – 1 753 091 households

(Source: Non-financial census of municipalities for year ended 30 June 22, published by Stats SA, 26 March 2024)

Conclusion

- Eskom’s application **is in accordance with the 2006 Electricity Regulation Act (ERA), Electricity Regulation Amendment Act 38 of 2024 and the prevailing Multi Year Pricing Determination (MYPD) methodology**. It is based on efficient and prudent costs and Return On Assets (ROA) that is increased to allow for cost of capital but still minimising the impact on consumers.
- **Eskom’s generators** have again been called upon **to fill the gap** caused by the **unavailability of IPPs** of various technologies
- **Eskom management has a role for about 50% of electricity production costs**, which are mainly contractual and depend on regulated decisions like water and fuel. The other 50% of costs, such as depreciation, Government programmes, and taxes, are externally determined.
- **Eskom’s electricity price is lower than in most countries** due to prices not covering the efficient cost of production for providing an electricity service
- Eskom is making a **total revenue application of R446bn, R495bn and R537bn for FY2026, FY2027 and FY2028** respectively
- The key drivers for the Eskom revenue application include:
  - **Enabling the strategic role** played by Eskom
  - Ensuring the **efficient costs and a fair return to Eskom** to continue to provide an electricity service in the form of Generation, Transmission and Distribution services
  - **Migrating towards** recovering an ROA equal to the **weighted average cost of capital**
  - Striving to become self-sufficient and **not continue to be dependent on support from the fiscus**
- For Eskom to be financially viable it needs:
  - Cost reflectivity at revenue and tariff level, balance sheet support by Government, cost exemplarity and collection of billed revenue

Eskom
National Transmission Company South Africa ™

Power system status

System Operator

20 November 2024

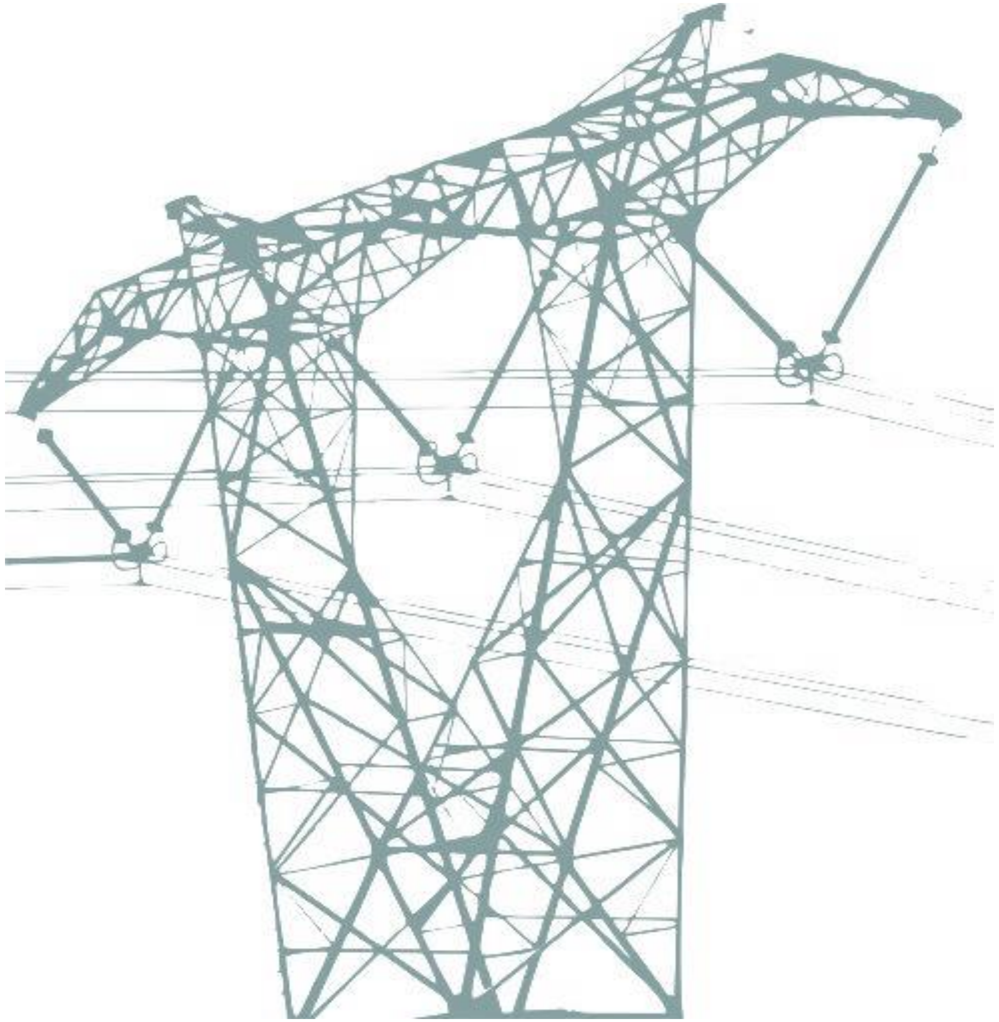
Overview

Power and energy demand

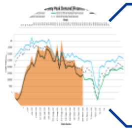
Emergency reserves

Renewable generation

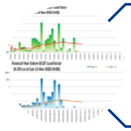
Current outlook



Summary of system performance



Financial year-to-date energy sent out from dispatchable plant is 2.3% lower than for the same period last year. (2.3% lower for dispatchable and renewable)



IPP OCGT load factor is 3.9%, Eskom OCGT load factor is 6.9% (Financial year to date) (17.1% and 20.0% respectively for last FY)

There have been 38 renewable generation curtailment event this financial year. (11 last financial year)

There have been 0 days of load shedding this financial year, 83 days of load shedding this calendar year. (335 days for calendar year 2023)

The highest residual demand (demand supplied by dispatchable generation) for 2024 was 32 043MW on 22 July 2024. (33 016MW for 2023)

The highest contracted peak demand (demand supplied by dispatchable and renewable generation contracted to SBO) for 2024 was 33 485MW on 9 July 2024. (33 873MW for 2023)

Currently there is 6 430 MW of renewable generation contracted to the SBO. Rooftop PV is estimated to be 6 165MW

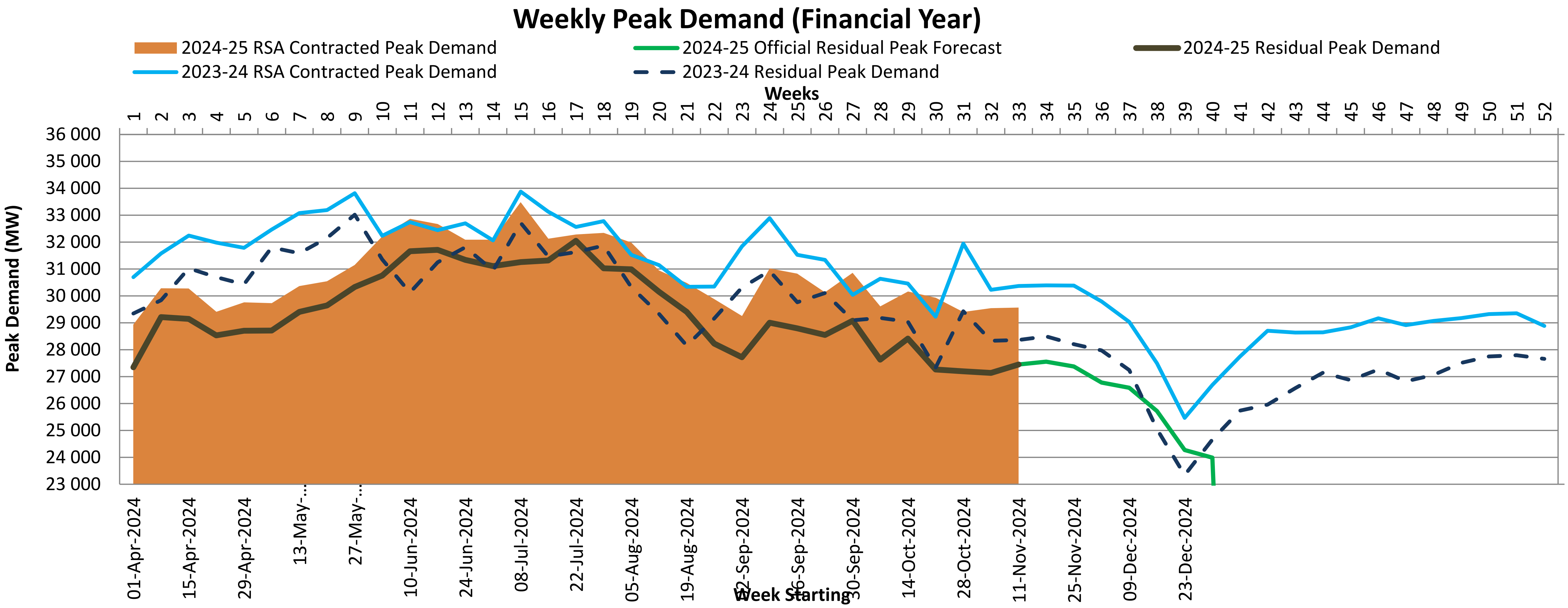
(500 MW of CSP, 2 287 MW of PV, 3 443 MW of wind and 150MW of hybrid)

Eskom
National Transmission Company South Africa ™

Actual Weekly Demand and Energy

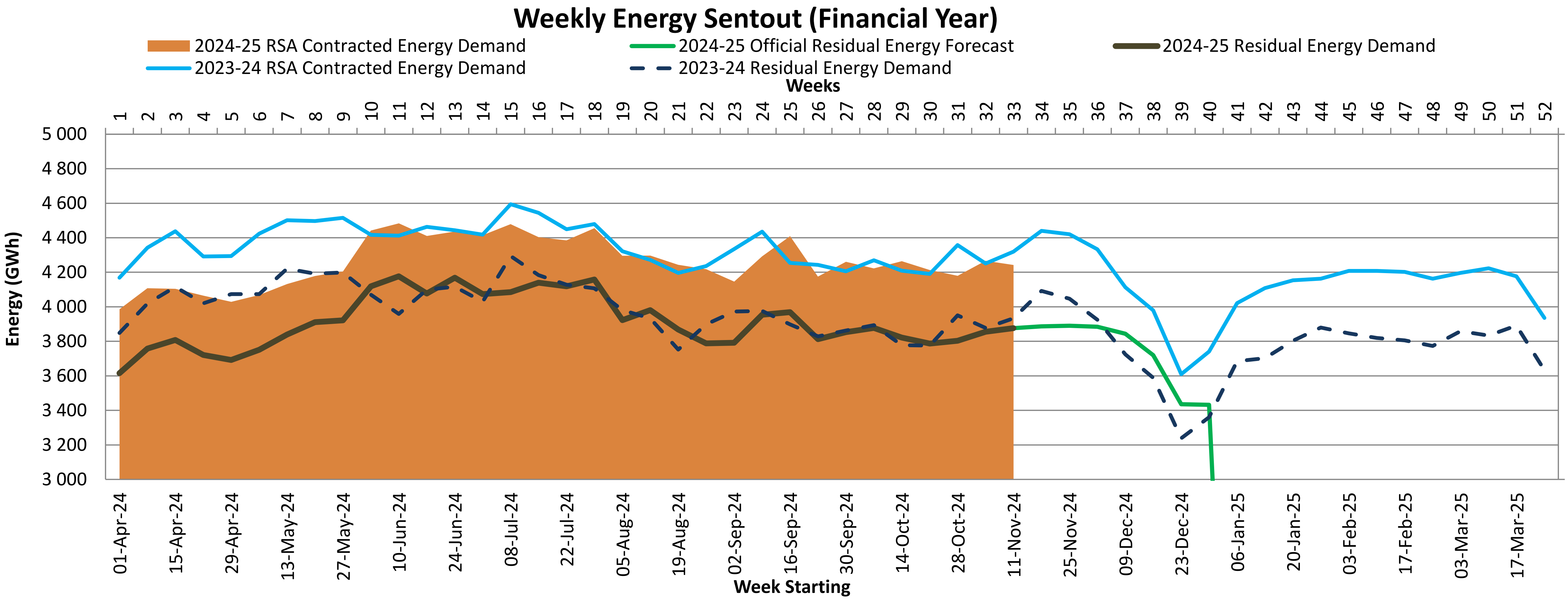


Actual System Weekly Peak Demand (Including IOS)



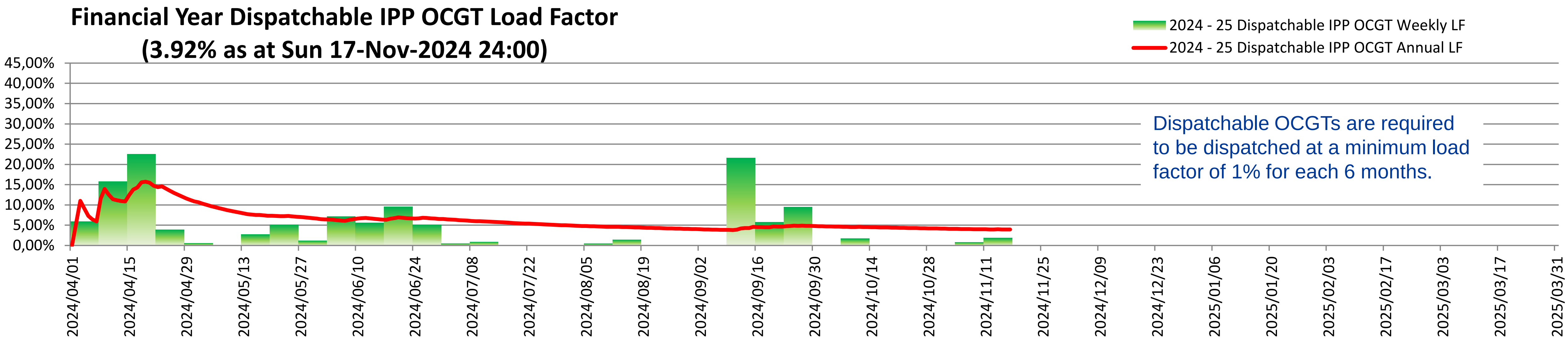
- The residual peak demand for 2023-24 Financial Year was 33 016 MW on 30-May-2023. The Year-To-Date residual peak demand for 2024-25 Financial Year occurred on 22-Jul-2024 and is 32 043 (considering dispatchable generation and firm imports).
- When including the supply from contracted IPPs (sold to Eskom) the RSA contracted peak demand for 2023-24 Financial Year was 33 873 MW on 10-Jul-2023, and the Year-To-Date RSA contracted peak of 2024-25 Financial Year occurred on 09-Jul-2024 and is 33 485 MW.
- The contracted demand reductions over peak last week was 555 MW, and the support from Renewable IPPs was 2 524 MW.

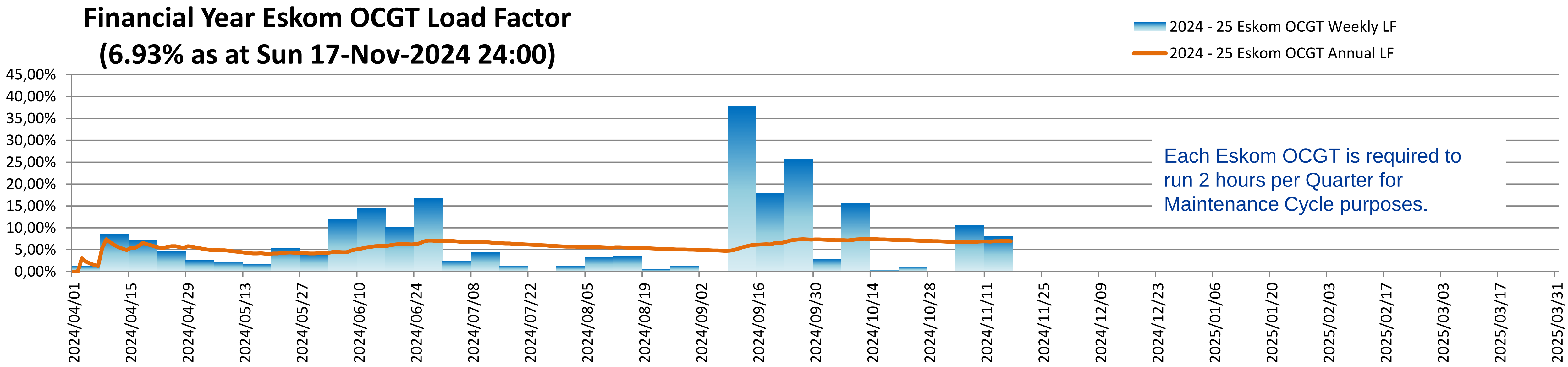
Actual System Weekly Energy Demand (Including IOS)



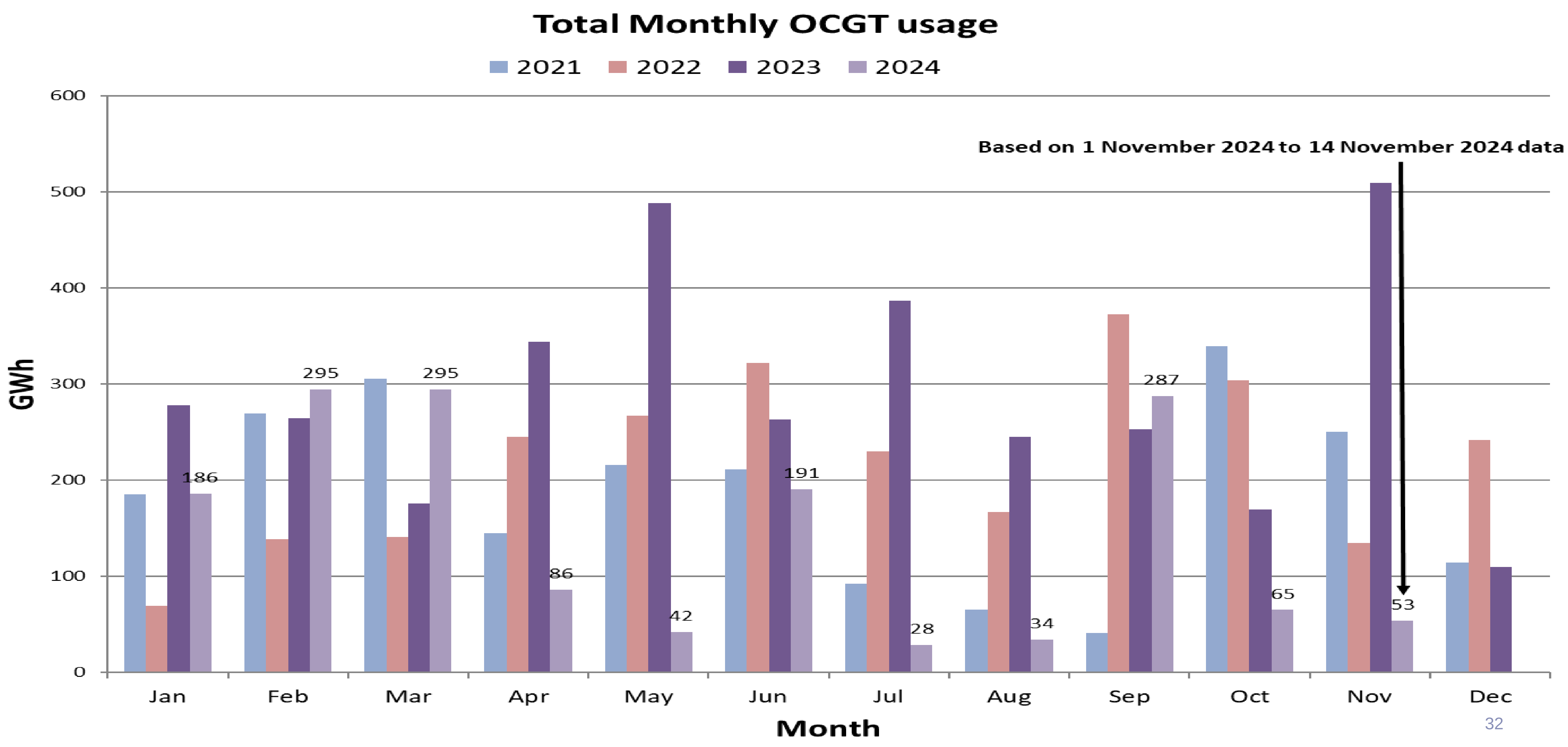
- Considering only the dispatchable generation (and firm imports) the YTD 2024-25 Financial Year residual energy demand growth is about -2.27%.
- Considering dispatchable generation (with firm imports) and the supply of energy from contracted IPPs (sold to Eskom) the YTD 2024-25 Financial Year RSA contracted energy demand growth is approximately -2.29%.

Current Financial Year - Load Factors





Monthly Gas Generation



Pumped Storage Generation hours of the past week

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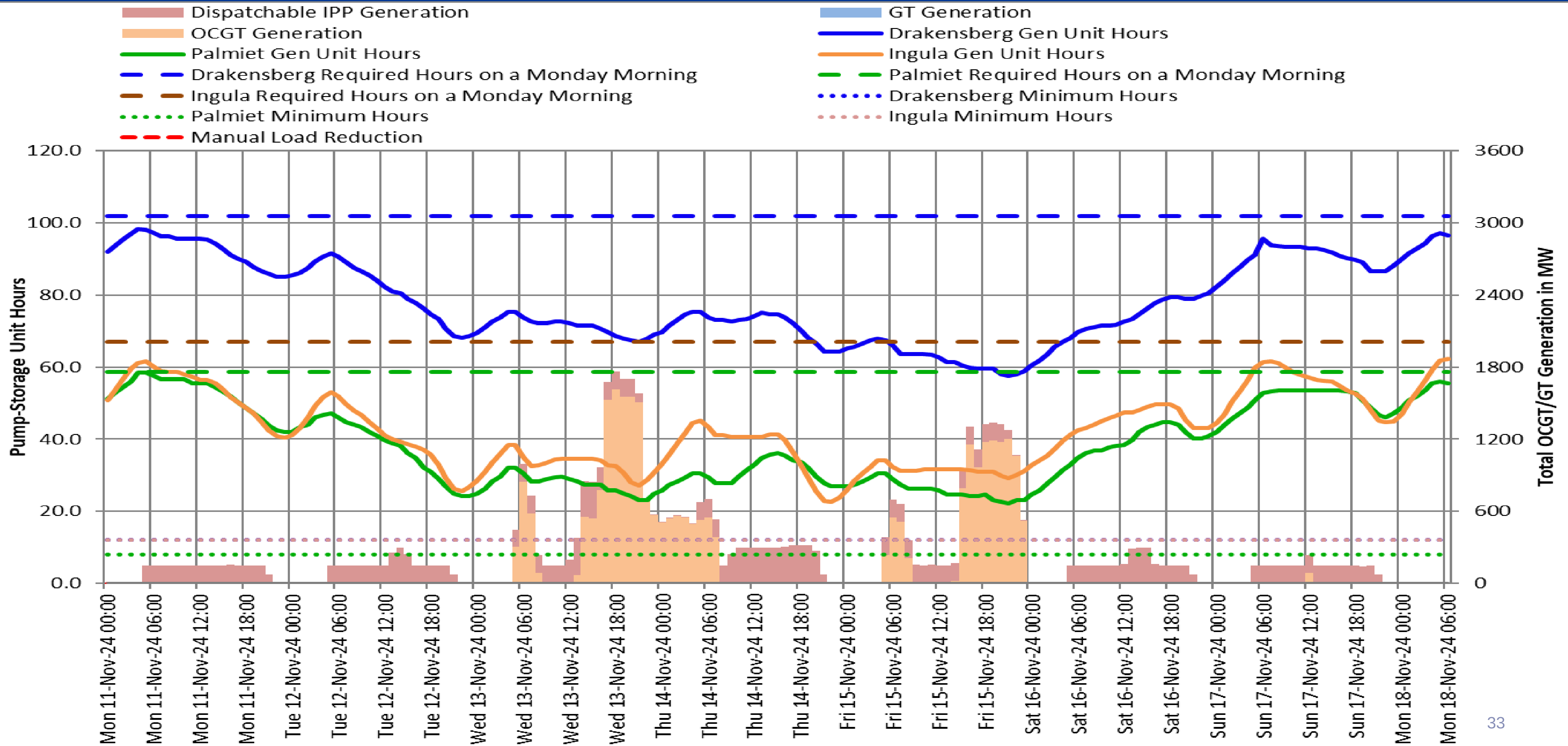
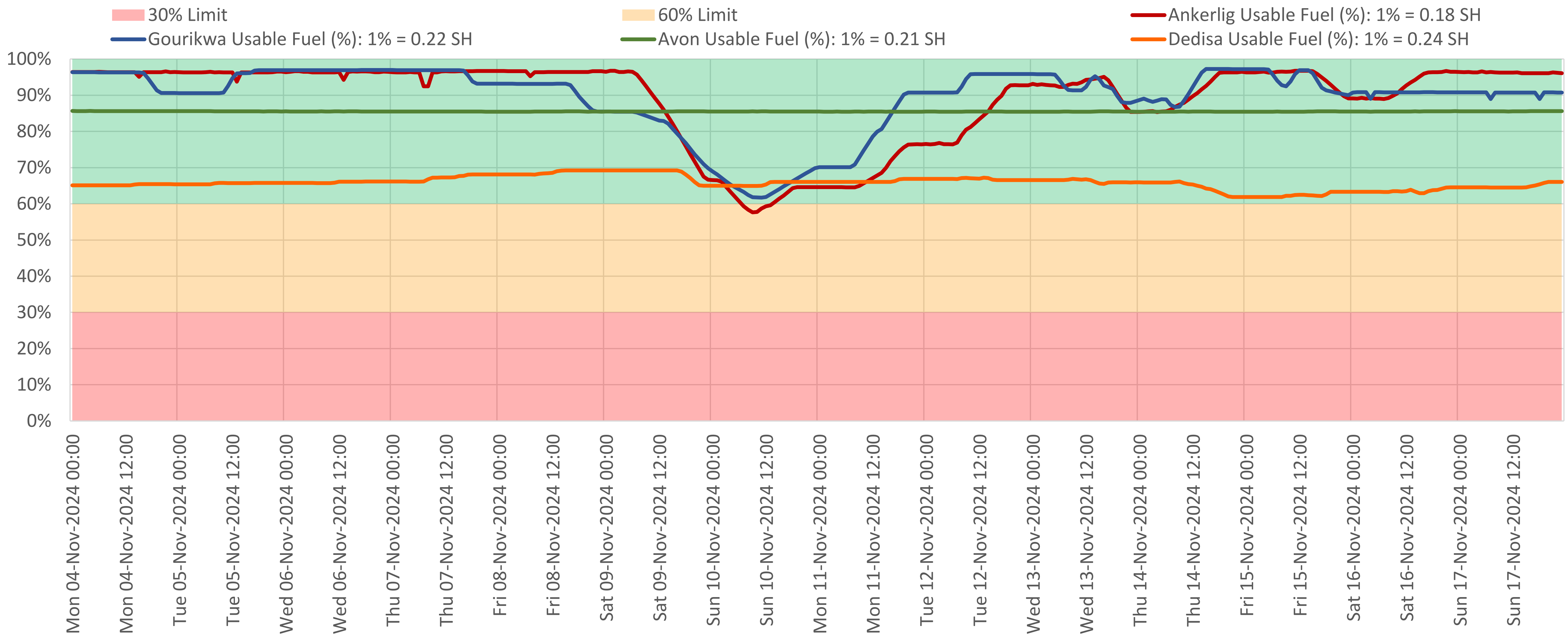


Fuel levels at OCGT stations



- If the available usable fuel drops below 60%, the station will likely require constant fuel supply in order to maintain healthy generation levels.
- If the available usable fuel drops below 30% at multiple stations, this indicates a high likelihood that load reduction will be required to maintain emergency generation.

Annual Load Shedding and Curtailment events (for calendar years 2013 to-date)

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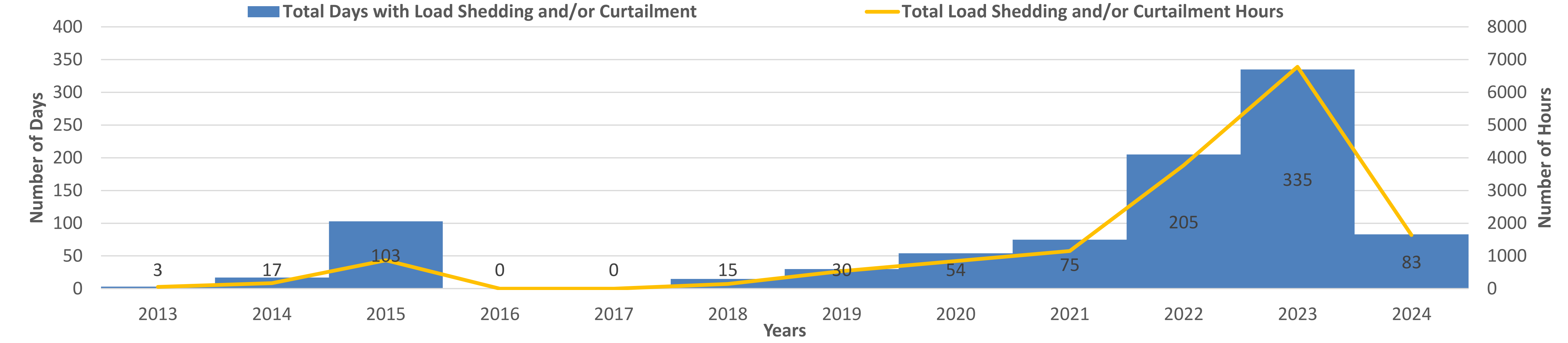
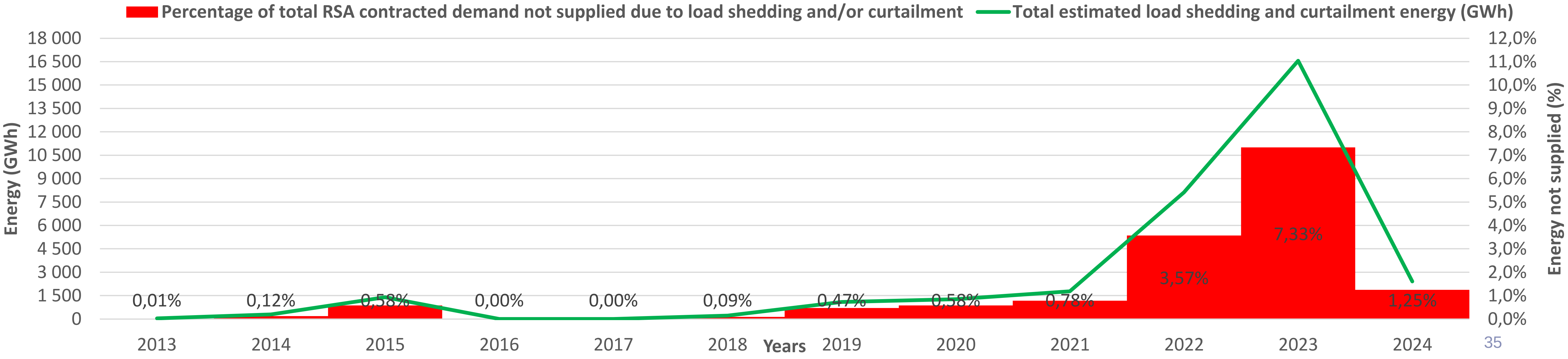
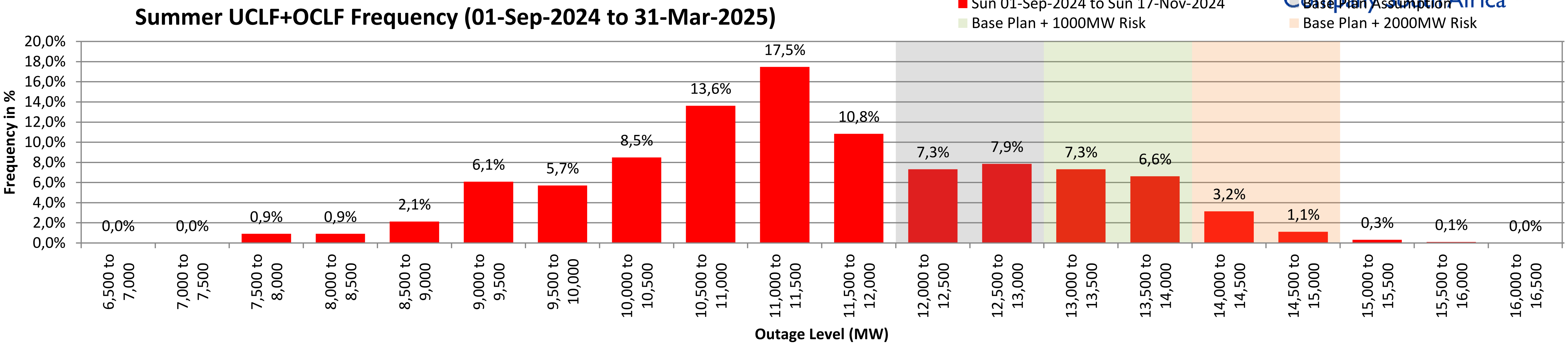
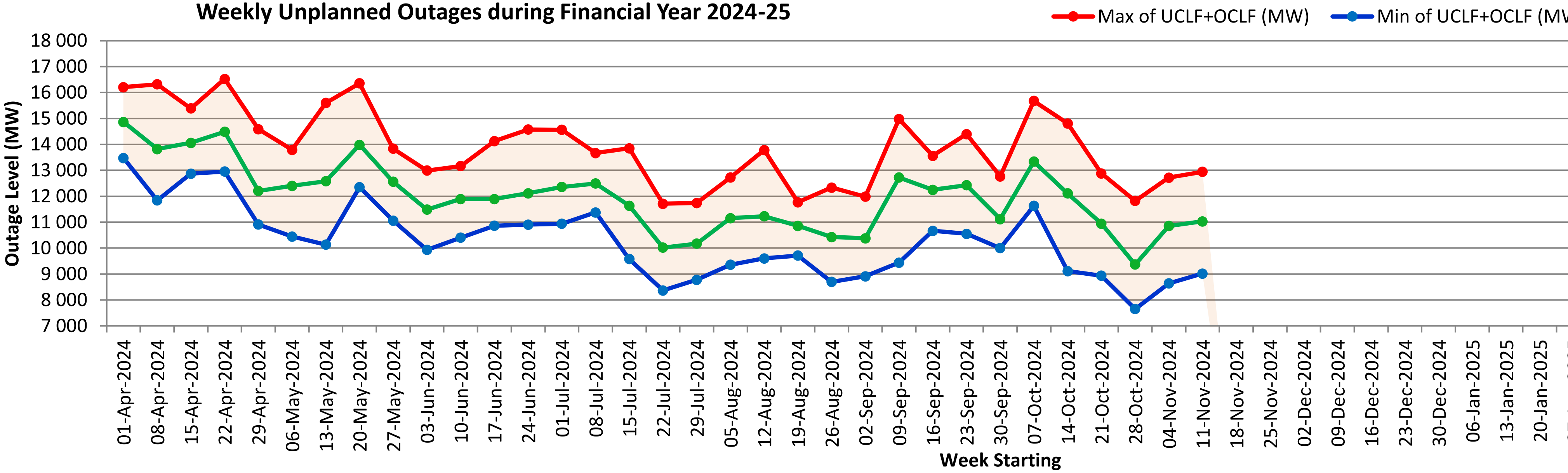




Generation Performance





The **average** unplanned unavailability over evening peaks since 1 September 2024 is **11 626MW.**

There is still about 4000MW variability in available capacity in a 168-hour week.

Daily Unplanned Outage Trend against Summer Plan 2024-25

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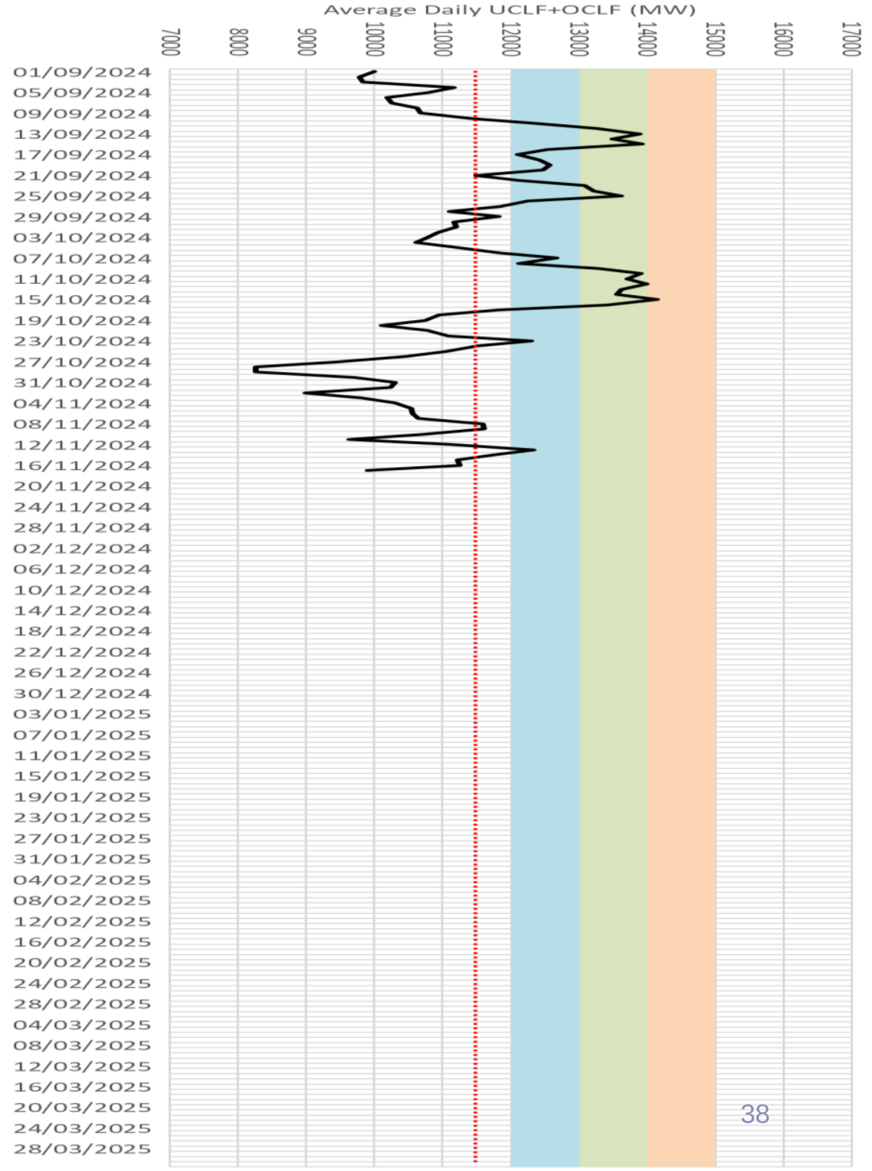
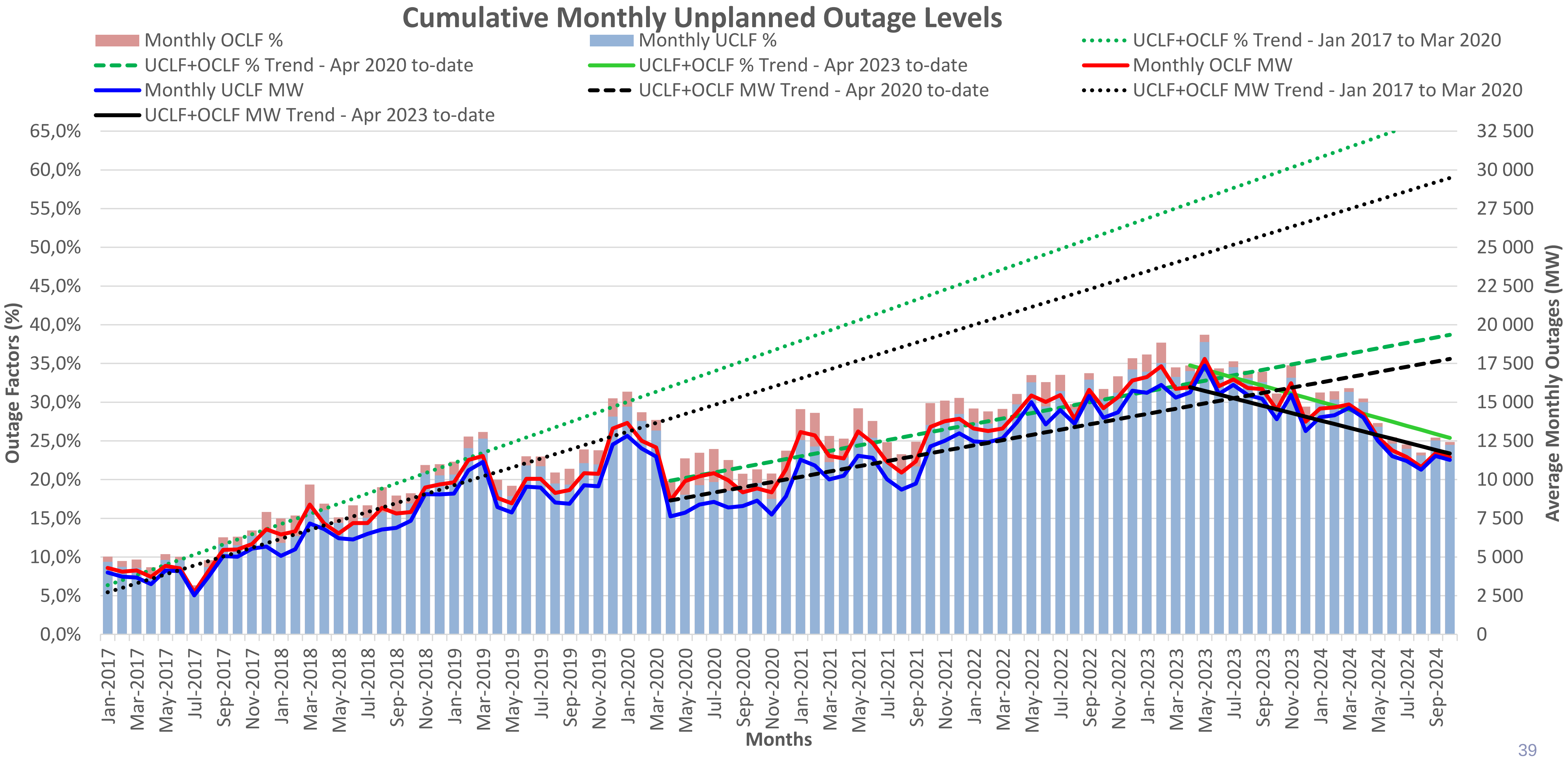
Detailed view for the last 28 Days

Interval / Date	7000 - 7500	7500 - 8000	8000 - 8500	8500 - 9000	9000 - 9500	9500 - 10000	10000 - 10500	10500 - 11000	11000 - 11500	11500 - 12000	12000 - 12500	12500 - 13000	13000 - 13500	13500 - 14000	14000 - 14500	14500 - 15000	15000 - 15500	15500 - 16000	16000 - 16500	16500 - 17000
											Base Case		Base Case + 1000MW Risk		Base Case + 2000MW Risk					
Mon 21/Oct/2024								10,774												
Tue 22/Oct/2024									11,092											
Wed 23/Oct/2024											12,302									
Thu 24/Oct/2024										11,509										
Fri 25/Oct/2024									11,045											
Sat 26/Oct/2024							10,457													
Sun 27/Oct/2024					9,445															
Mon 28/Oct/2024			8,258																	
Tue 29/Oct/2024			8,262																	
Wed 30/Oct/2024						9,715														
Thu 31/Oct/2024							10,309													
Fri 01/Nov/2024							10,238													
Sat 02/Nov/2024				8,994																
Sun 03/Nov/2024						9,809														
Mon 04/Nov/2024							10,309													
Tue 05/Nov/2024								10,550												
Wed 06/Nov/2024								10,553												
Thu 07/Nov/2024								10,651												
Fri 08/Nov/2024										11,593										
Sat 09/Nov/2024										11,615										
Sun 10/Nov/2024								10,696												
Mon 11/Nov/2024						9,624														
Tue 12/Nov/2024									11,118											
Wed 13/Nov/2024											12,342									
Thu 14/Nov/2024										11,747										
Fri 15/Nov/2024									11,224											
Sat 16/Nov/2024									11,261											
Sun 17/Nov/2024						9,896														

Total view during Summer



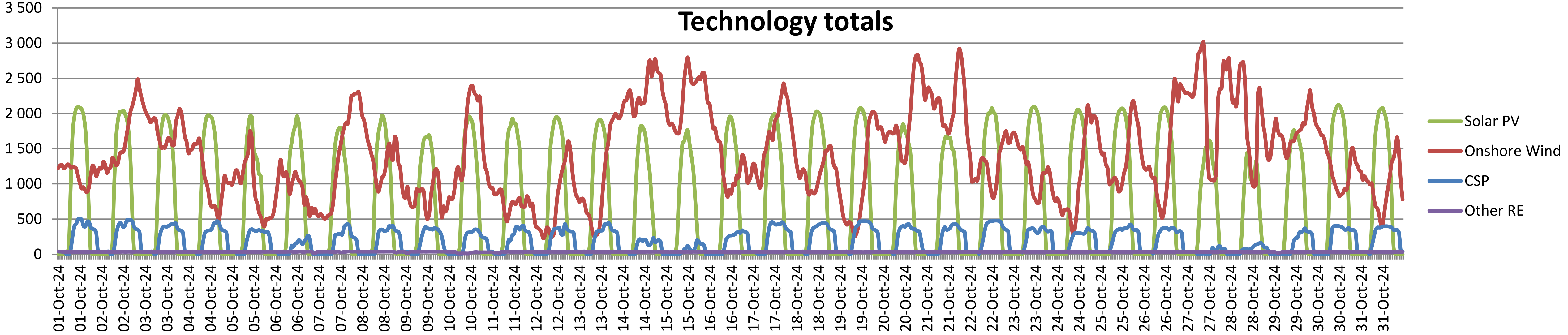
Cumulative Monthly Unplanned Outage Levels

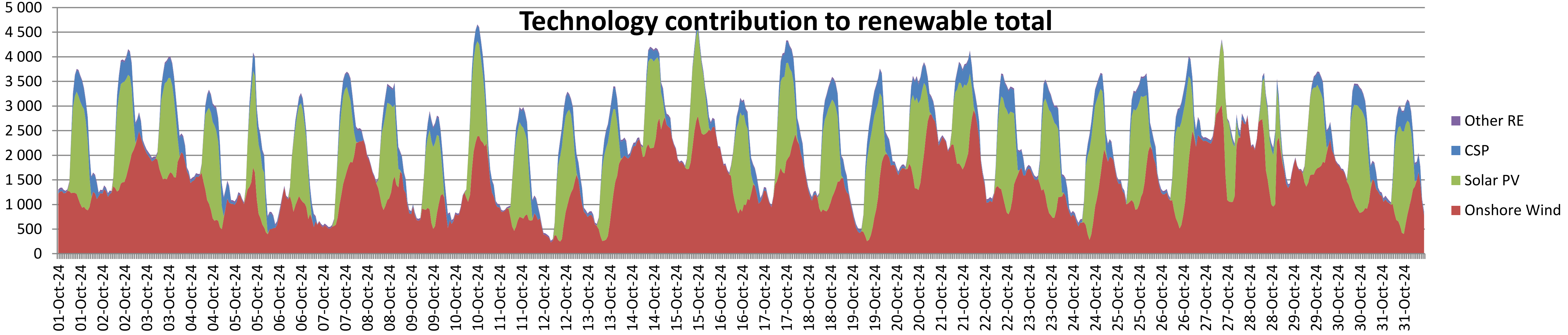


- Source: Gx Technical Indicators Reports

Renewable generation

Impact of renewable generation





- PV and to a lesser extent CSP continue to support the system during the day
- Some evenings wind has supplied over 2800 MW during peak, while others much less so.

Renewable generation

Current Installed Capacity (MW)	
CSP	500.0
PV	2,287.1
Wind (Eskom+IPP)	3,442.6
Hybrid	150.0
Total (Incl other REs)	6,430.2
Estimated Rooftop PV*	6,165.2

Sere wind farm

Rooftop PV (behind the meter) has increased by 3 800MW in 24 months.

System Operator can now dispatch the 150MW of hybrid plants (PV and battery storage) as well as contract ancillary services such as operating reserve.

The highest output from the grid connected renewables plants was 5 130MW at 13:00 on 15 September 2023.

On 20 February 2023 at 15:00, renewables supplied 21.8% of the country's grid demand.

The largest change in wind generation output in a 24-hour period, from one evening peak to the next, was 2 573MW from 12 August to 13 August 2024.

Behind the meter PV

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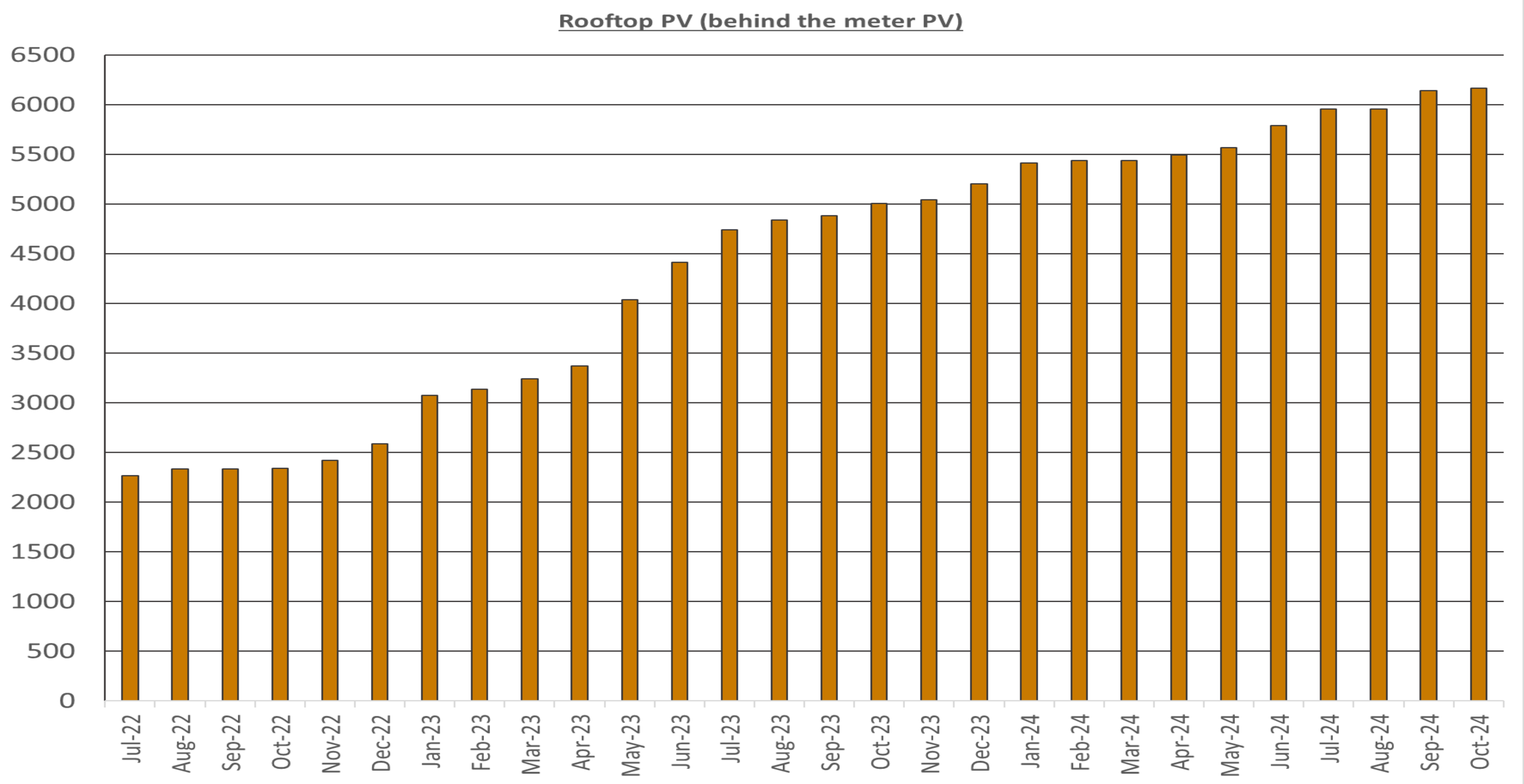

Wind generation characteristics

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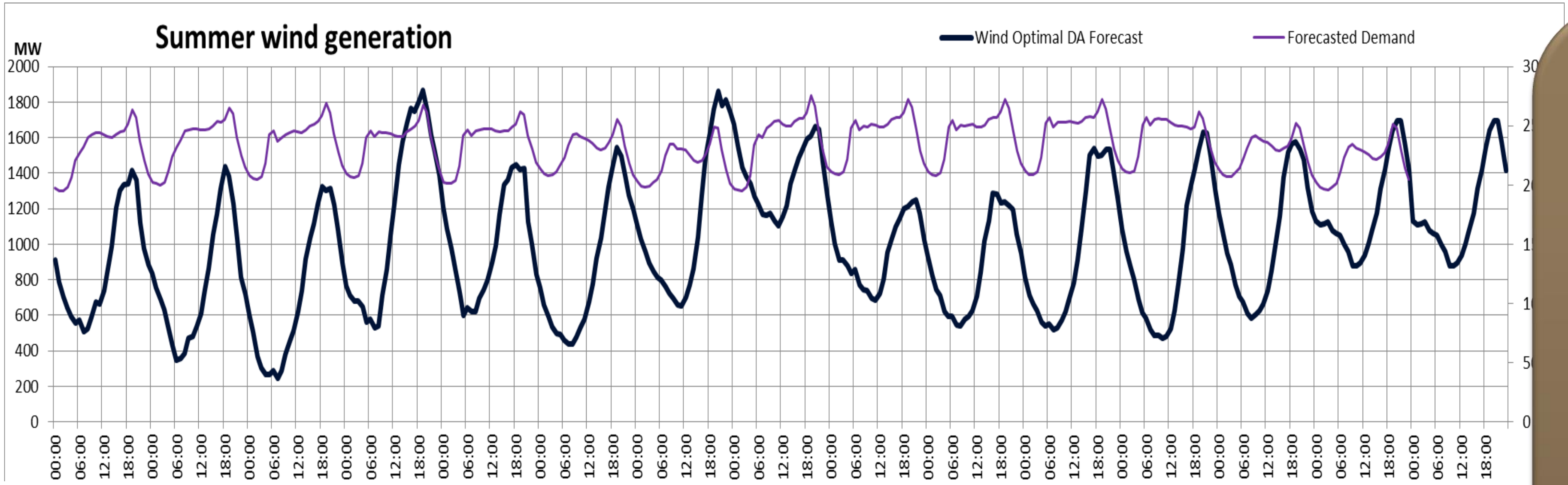
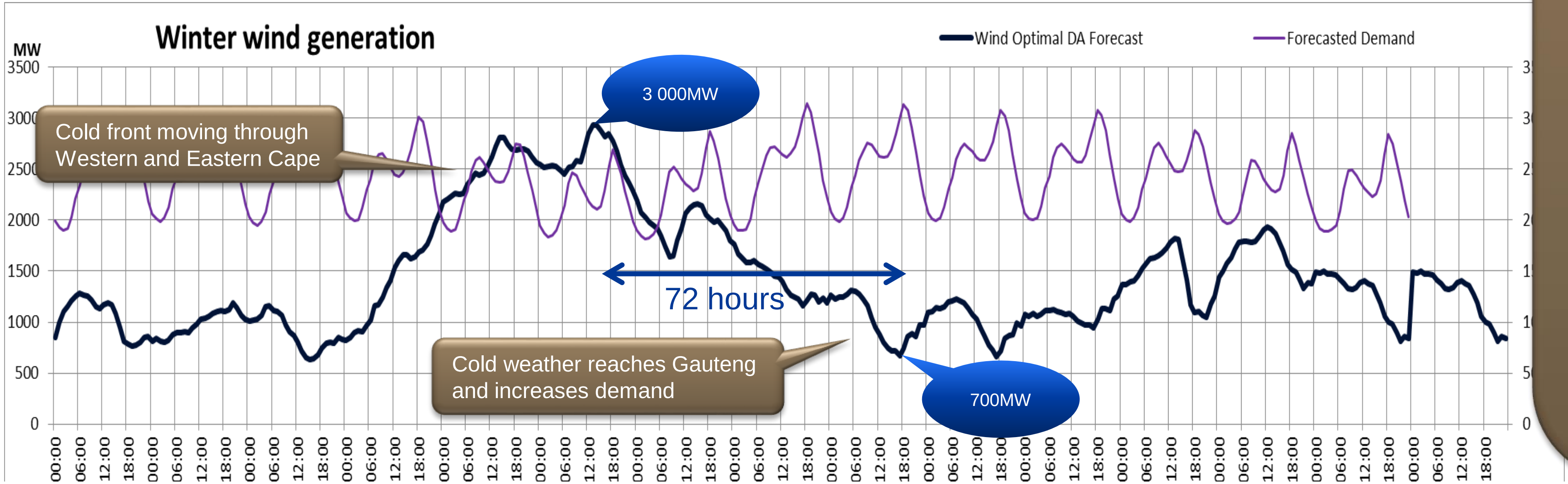


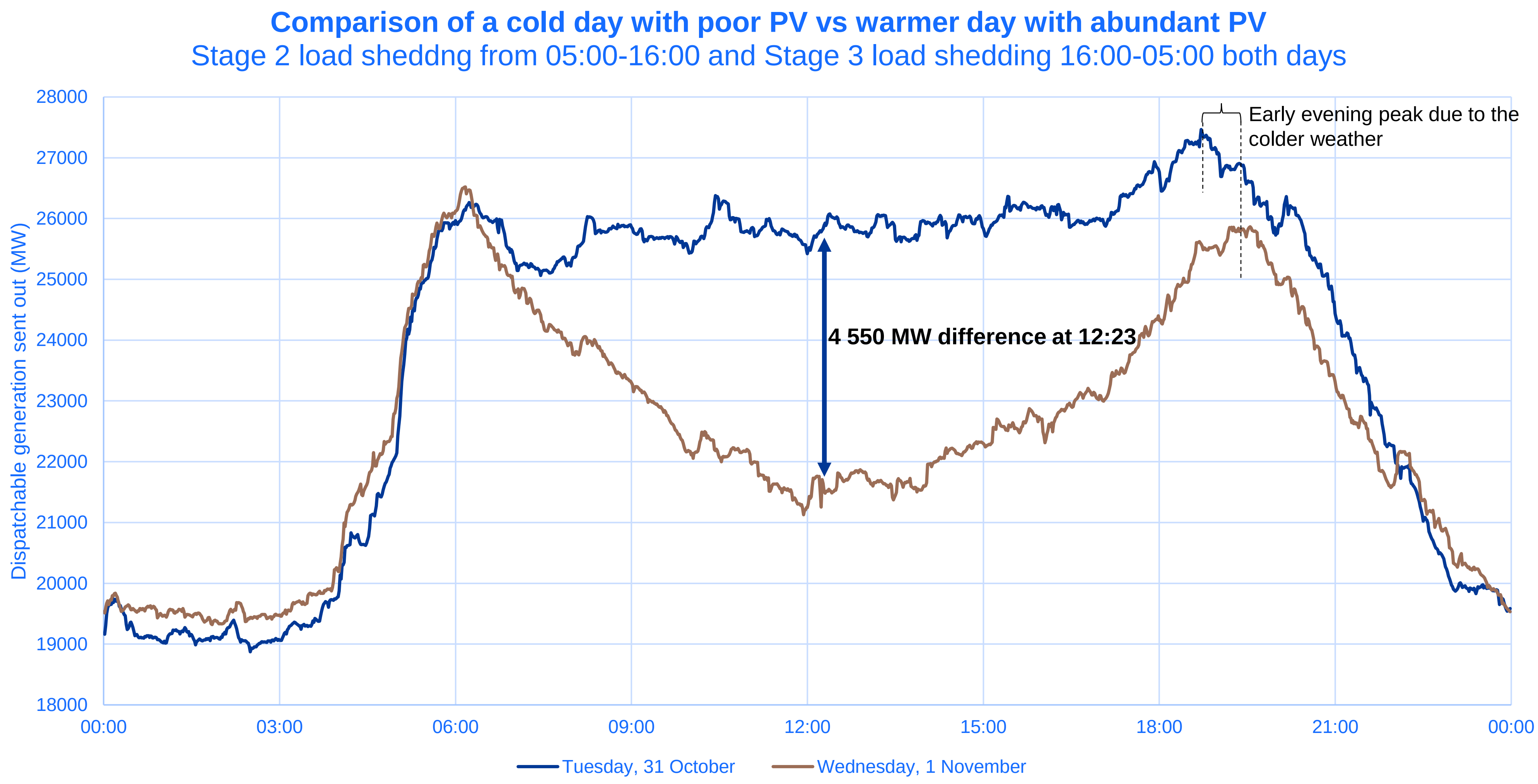


During the summer months, the wind generation aligns almost perfectly to the high evening peak demand and the low night minimum demand.

However, in winter, when the cold front passes through the Western and Eastern Cape, the wind generation increases significantly.

As the cold front arrives in densely populated Gauteng, the cold weather drives demand for electricity up and at the same time the wind generation reduces significantly due to the low-pressure trough behind the front. This double whammy requires 1000's of MW of generation to be dispatched in a short period of time to compensate for the reduced generation and increased demand.

Impact of rooftop (behind the meter) PV



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Power system outlook

Weekly update of the seasonal plan differs slightly from the base plan

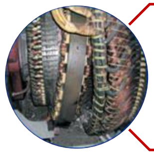
Planning the power system

- System Operator and Generation do a detailed plan (updated weekly) for 18 months ahead.
- Four critical components make up the Plan and determine the need for OCGT generation usage and load shedding.
- Due to the 4 000MW uncertainty in UCLF, scenario planning is necessary to determine the likely outlook.

Installed generation capacity: This includes new build non-commercial generators and dispatchable IPP OCGTs but excludes self-dispatch renewable generation.

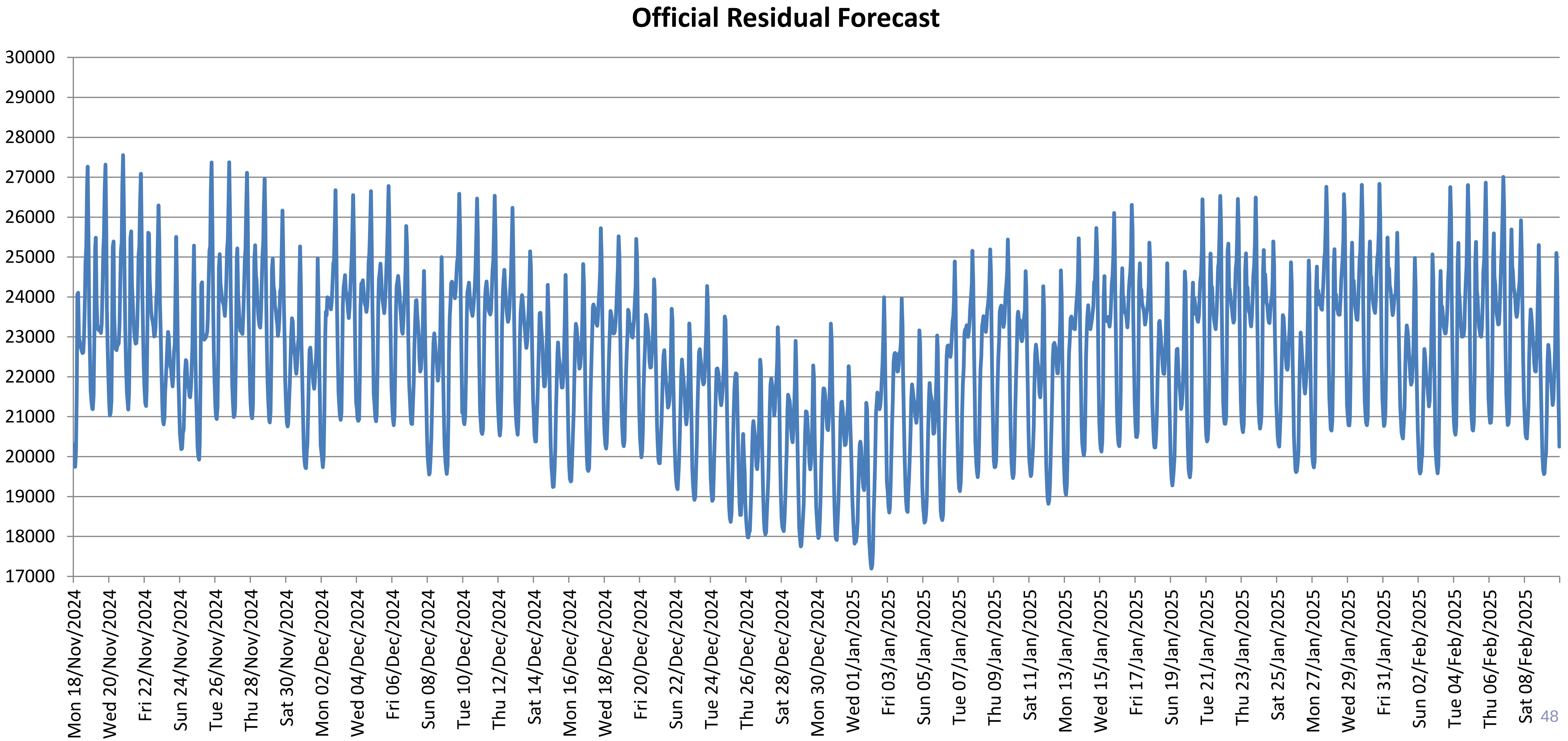
Demand forecast: The residual demand forecast (total demand less demand supplied by renewable generation) is used.

PCLF: Planned generation outages for maintenance.



UCLF + OCLF (Unplanned unavailability): Unplanned generation outages.

System Hourly Residual Demand Forecast



Monthly System Status Outlook to March 2025

System Status Including 2200MW Operating Reserves			Base Case				Base Case + 1000 MW Risk				Base Case + 2000 MW Risk			
Month	Peak Residual Forecast	Unplanned Provision	Load Reduction Days	Max Load Reduction Stage	Estimated Monthly Gas Generation	Estimated Gas Generation Cost (Rm)	Load Reduction Days	Max Load Reduction Stage	Estimated Monthly Gas Generation	Estimated Gas Generation Cost (Rm)	Load Reduction Days	Max Load Reduction Stage	Estimated Monthly Gas Generation	Estimated Gas Generation Cost (Rm)
November 2024	27,553	13,000	0		33,866	R226.80	2	1	93,188	R624.09	6	2	208,576	R1,396.84
December 2024	26,781	13,000	0		43,639	R292.25	1	1	155,889	R1,044.00	9	2	405,303	R2,714.34
January 2025	26,834	13,000	0		28,043	R187.81	0		107,410	R719.33	8	1	305,899	R2,048.62
February 2025	28,486	13,000	0		70,080	R469.33	11	1	209,235	R1,401.26	13	2	471,702	R3,159.02
March 2025	28,967	13,000	0		111,813	R748.82	11	1	286,195	R1,916.66	19	2	602,742	R4,036.59

Thank you