Distribution Demand Management Program

MARKETING OPERATIONS

Energy Services

AMEU WiE General Meeting

08 May 2025

Kiran Ranchhod

Overview - New Business Initiatives

Distribution Demand Management Program

Demand Response, Load management, Energy Efficiency, Residential Load Management

Flexible Services

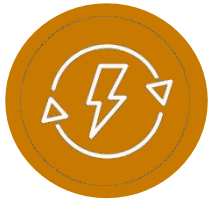
SSEG, BESS, Microgrids, EV, SMART Meters

Distribution Energy Trader

Standard Offer

Direct & Indirect Customers

Background : Launch of Eskom Distribution Demand Management Programme



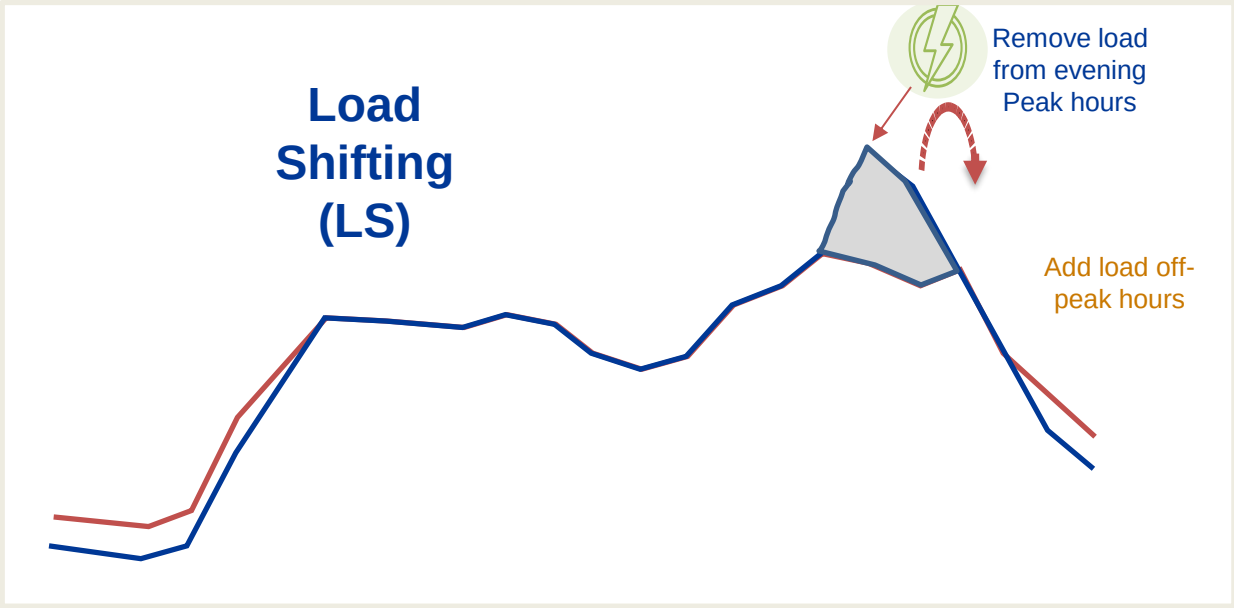
- Eskom is experiencing significant challenges in adequately balancing the national supply and demand of electricity and is regularly forced to implement load shedding to protect the power system. To mitigate these risks ,Eskom has reactivated the Distribution Demand Management Programme (DDMP) to assist with the energy challenges

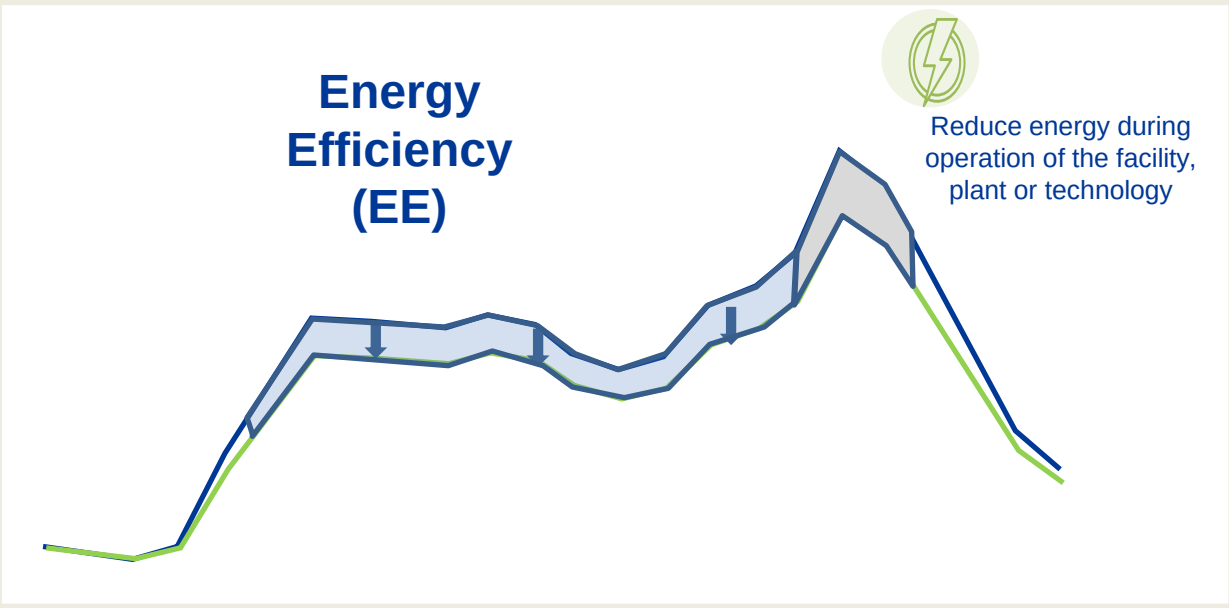
- On the 13th of April 2023 Eskom launched three (3) Distribution Demand Management Programmes (DDMPs): the Residential Load Management, Energy Efficiency and Load Management Programme to assist with the energy constraints challenges.

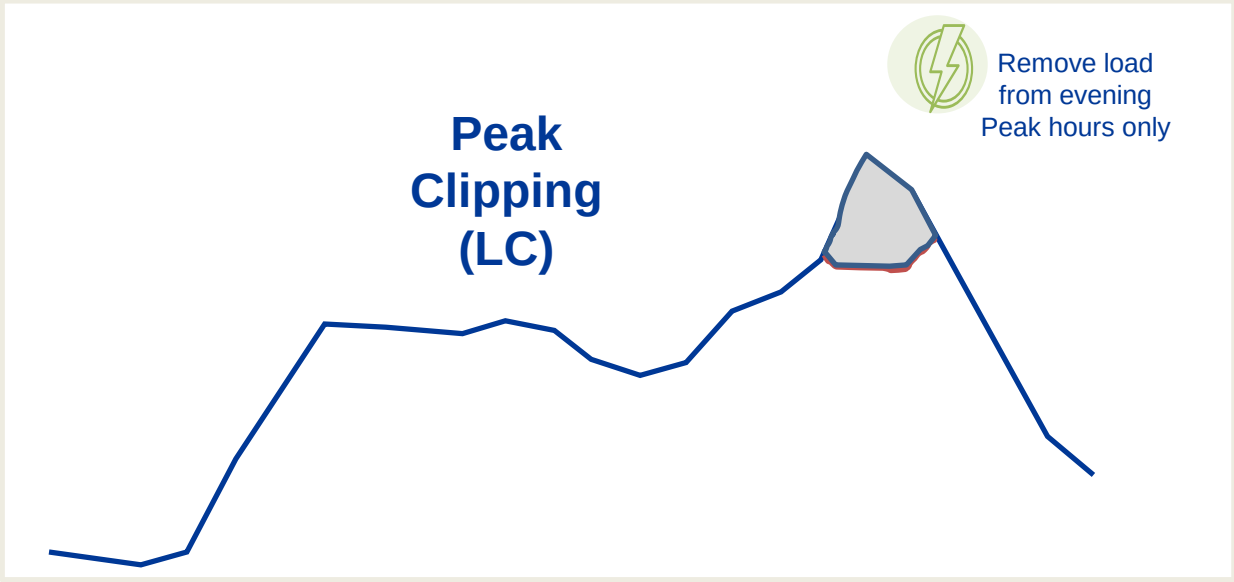
- Project developers (PD) are invited to submit proposals as per the prescribed DDMP Programme rules.

Refer to weblink for details : https://www.eskom.co.za/distribution/demand-management-programme/

Impact of individual Demand Management Measures







Key insights

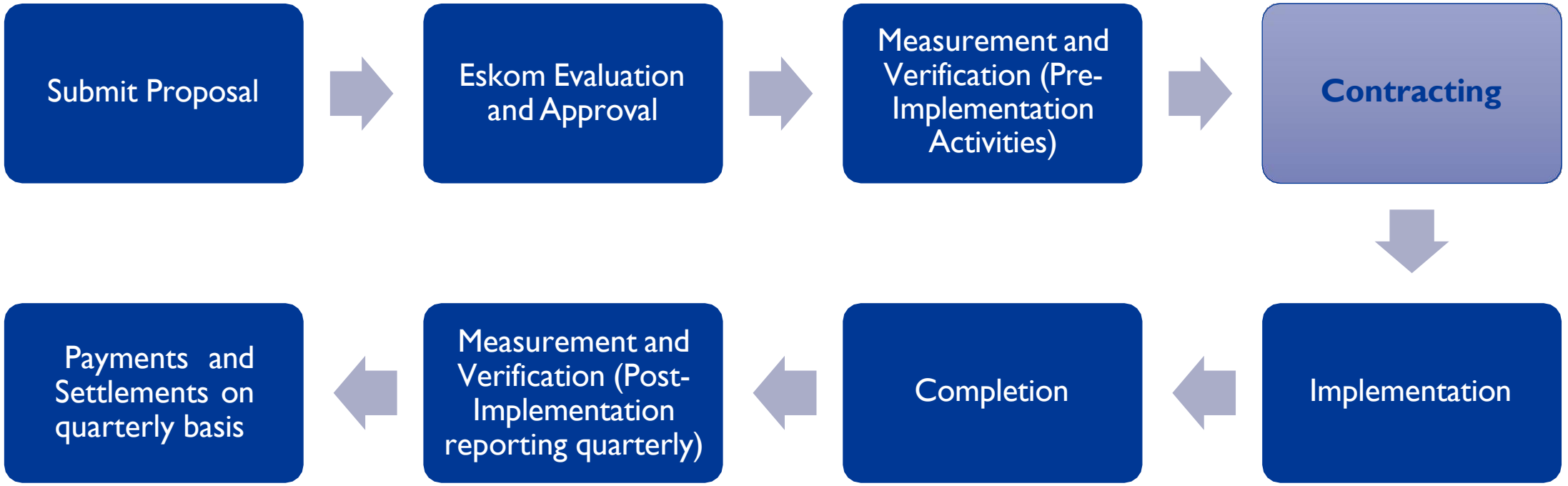
- As designed the demand management measures deliver savings during the evening peak, this is also the most constrained period for the grid.
- All three programmes contribute to reducing system peak with EE also contributing to non-peak periods.
- Therefore, the impact of DM measures is and will be the evening peak (e.g., peak rates).

What is the Performance Contracting Model?

- Projects are to be financed upfront by the PD or customer.
- PD's may approach the banking sector for finance.
- All approved proposals will be subject to an independent measurement and verification of the proposed baseline prior to contract award.
- Awarded contracts are provided with a standard incentive rate (Rand/MW or Cents/kWh) for achieved demand and/or energy reduction during specified periods.
- On completion, projects will be independently measured and verified quarterly against the contracted demand and energy savings.
- Incentive rebates are paid quarterly (eight quarters) for the savings realised over a 24-month sustainability term.
- Payments are capped at 100% performance, therefore, no payments for over performance.
    - No double dipping/claiming with other incentive programmes will be permitted.

Refer to weblink for details : https://www.eskom.co.za/distribution/demand-management-programme/

Performance Contracting Model - Process for approval



Refer to weblink for details : https://www.eskom.co.za/distribution/demand-management-programme/

Compensation :How does it work?

- The compensation will be weighted equally over 8 quarterly periods (3 monthly basis).
- Payments will be capped at a maximum performance value of 100% per quarter.
- Upon receipt of the quarterly performance assessment report, ESKOM would then calculate the applicable rebate payable to the Project Developer for the quarter.
- Calculations are based on the standard incentive rate of R3m/MW over a 2 year contracted period for RLM and LM programmes (Average demand Savings between 6pm to 8pm summer and 5pm to 7pm Winter)
- The EE programme incentive rate is 41.2c/kWh derived from the standard R3m/MW for the average demand achieved during specified period. (6am to 8pm weekdays)

Contracted MW

Rate

Project Name		xxxx
Project Number		xxxxx
Input Contracted MW		1
Input Contracted R/MW		R 3000000.00
Total Project Cost		R 3000000.00

Sustainability Periods	Target (MW)	Performace Achieved (MW)	% Performance against target	Payment Schedule	Cumulative Quarterly % Payment	Payment	Cumulative Payment
Quarter 1	1.00	1.00	100%	12.50%	12.50%	R 375000	R 375000.00
Quarter 2	1.00	1.00	100%	12.50%	25.00%	R 375000	R 750000.00
Quarter 3	1.00	1.00	100%	12.50%	37.50%	R 375000	R 1125000.00
Quarter 4	1.00	1.00	100%	12.50%	50.00%	R 375000	R 1500000.00
Quarter 5	1.00	1.00	100%	12.50%	62.50%	R 375000	R 1875000.00
Quarter 6	1.00	1.00	100%	12.50%	75.00%	R 375000	R 2250000.00
Quarter 7	1.00	1.00	100%	12.50%	87.50%	R 375000	R 2625000.00
Quarter 8	1.00	1.00	100%	12.50%	100.00%	R 375000	R 3000000.00
					TOTAL	R 3000000	

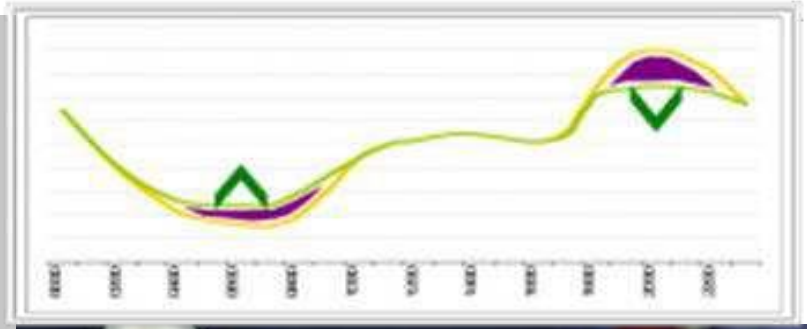
Performance based **Quarterly payments** **Total payment over 24months**

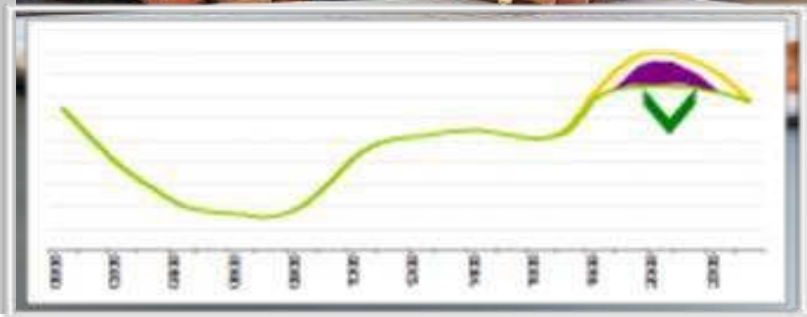
The Quarterly payments will be based on the formula: [Actual Performance (MW) x Approved Compensation Rate (Rm/MW) x 1/8]

Load Management (LM)

Load Management Programme Criteria

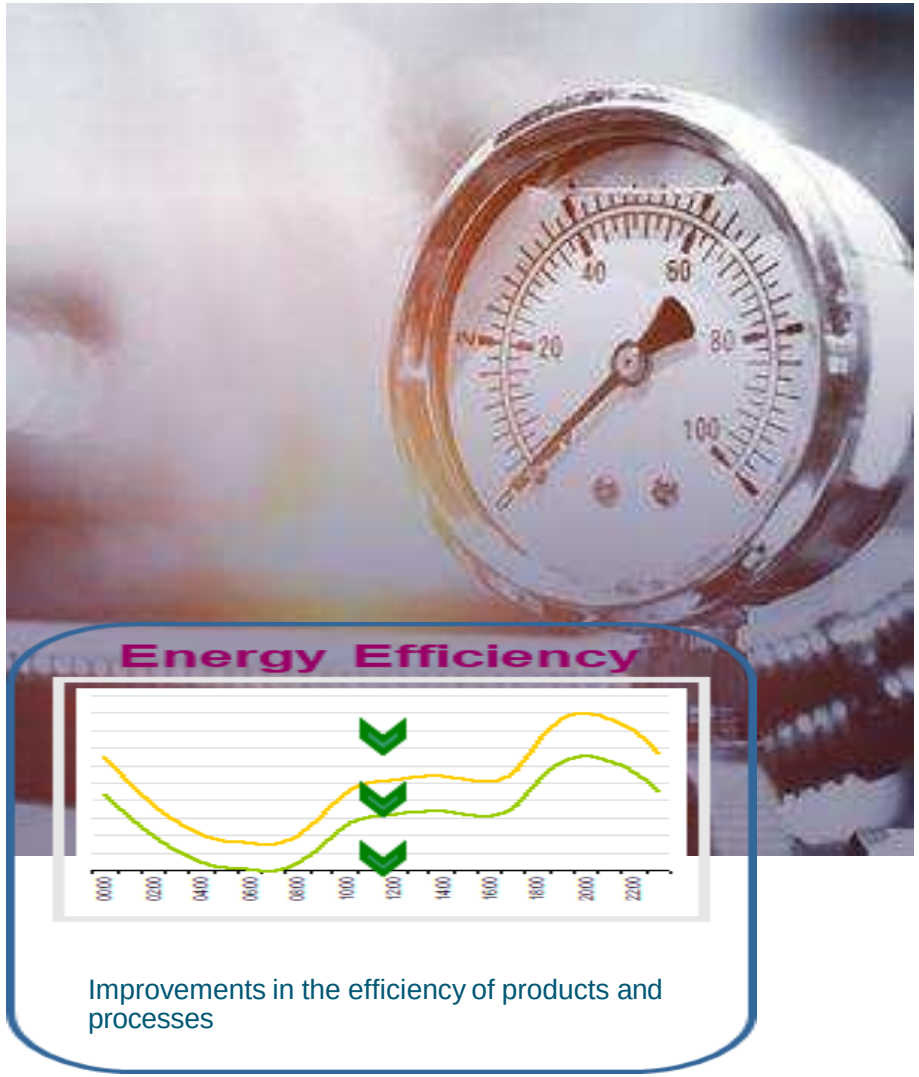
- Target Market: **All sectors (excluding residential sector)**
- Targeted period – **Eskom evening** peak (2hrs)
- **Load Shifting and Peak Clipping** are applicable.
- MW reduction is the **average demand** reduction over the evening peak period.
- A minimum demand reduction of **0.2MW at a single site** is required to participate
- Aggregation up to 4 sites (same entity) for the commercial sector.
- The maximum contract duration for the Load Management programme is **30 months**. Up to a maximum of 6 Months Implementation and 24 months sustainability.
- The Project Developer must provide all electrical metering equipment for the purpose of measurement and verification of as stipulated by the M&V body.





Energy Efficiency (EE)

Energy Efficiency Programme Criteria



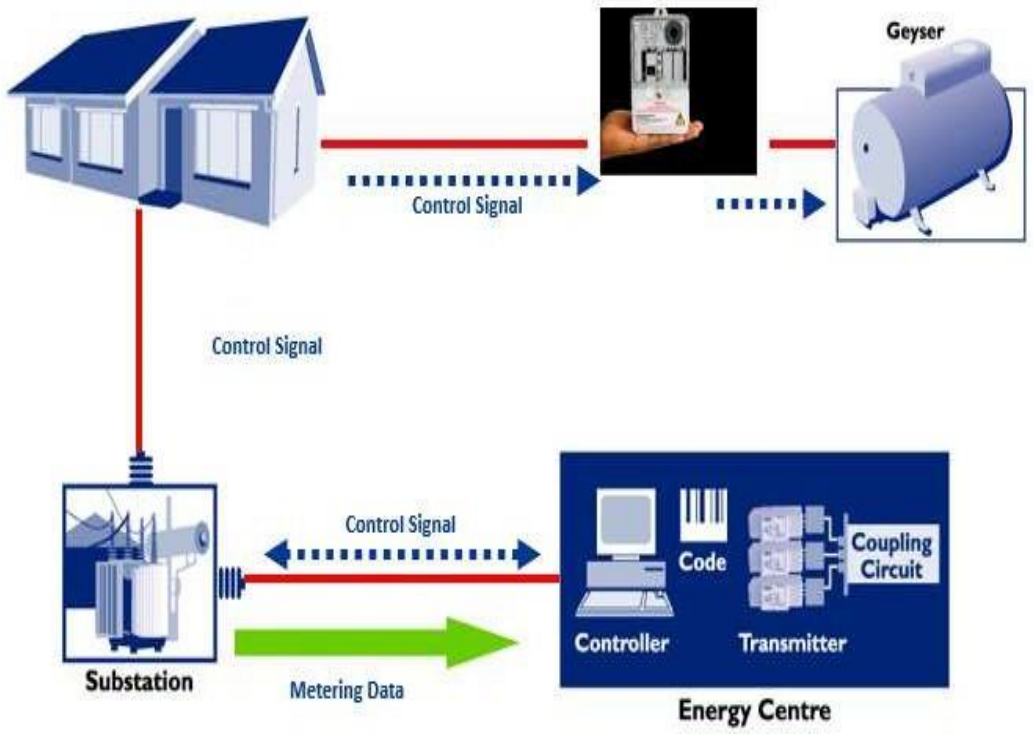
Improvements in the efficiency of products and processes

- Project developers must reduce consumption, measured between 6am and 8pm daily excluding weekends.
- A minimum average load reduction of 50kW per quarterly period for 8 quarters over a 24-month sustainability term.
- Aggregation up to 30 sites of the same entity project proposal.
- The project developer will be allowed up to a maximum of 6 months from the start date of the contract to implement the Approved Project.
- On completion of the implemented project, a completion certificate is to be issued (signed by, both the project developer/customer and Eskom) to activate the performance assessments.

Residential Load Management (RLM)

Residential Load Management Programme Criteria

- Minimum size of residential load shifting projects is 1 MW
- Proposal submissions are limited to a single metro/municipality
- Projects must be implemented within 12 months
- The targeted demand reduction period is the Eskom-defined evening peak period for both summer and winter
- Proposal submissions are to comply with the required templates and documentation as provide on Eskom Website



https://www.eskom.co.za/distribution/demand-managent-programme/

Residential Load Management Contracting Model

06

Implementation & Sustainability

Implementation Periods

Installation of New Hot Water Load Control System
12 months for new system installation implementation period .

Repairs of Existing Hot Water Load Control System
6 to 12 months for system repairs implementation period. Implementation period will be based on negotiated timelines

Repairs and Extension of existing Hot Water Load Control System
12 months for system repairs and extension implementation period .

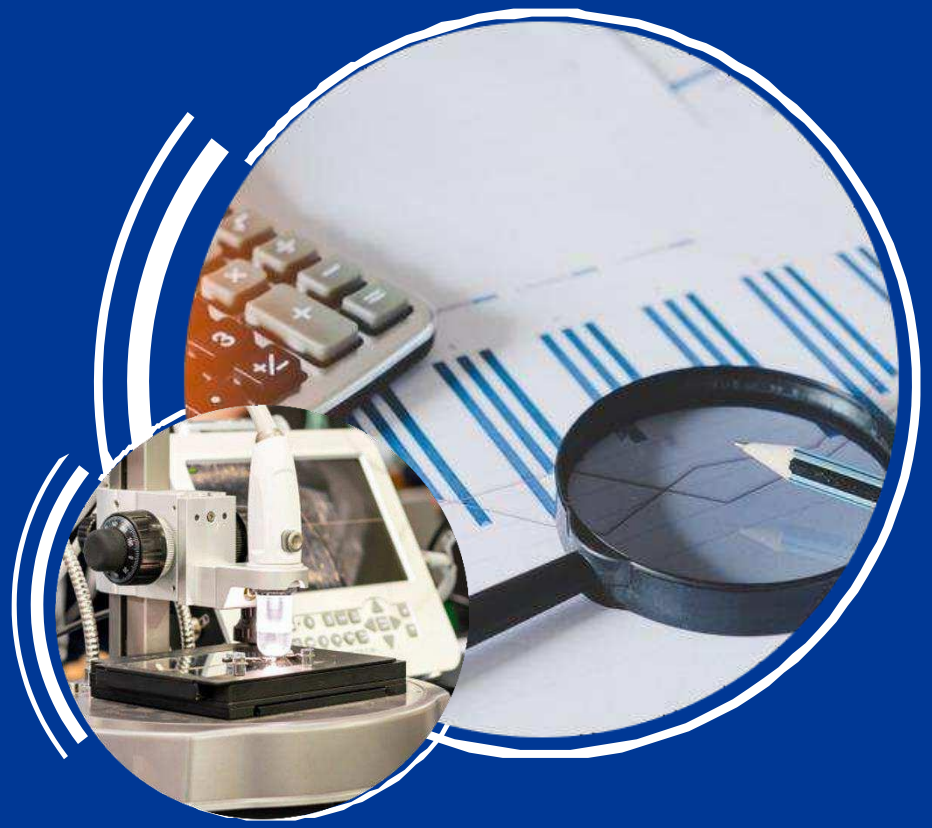
Extensions of existing Hot Water Load Control System
12 months for system extension only implementation period .

Sustainability Period

2 Years
(24 Months)

*M&V and Performance Payments for 8 quarterly periods

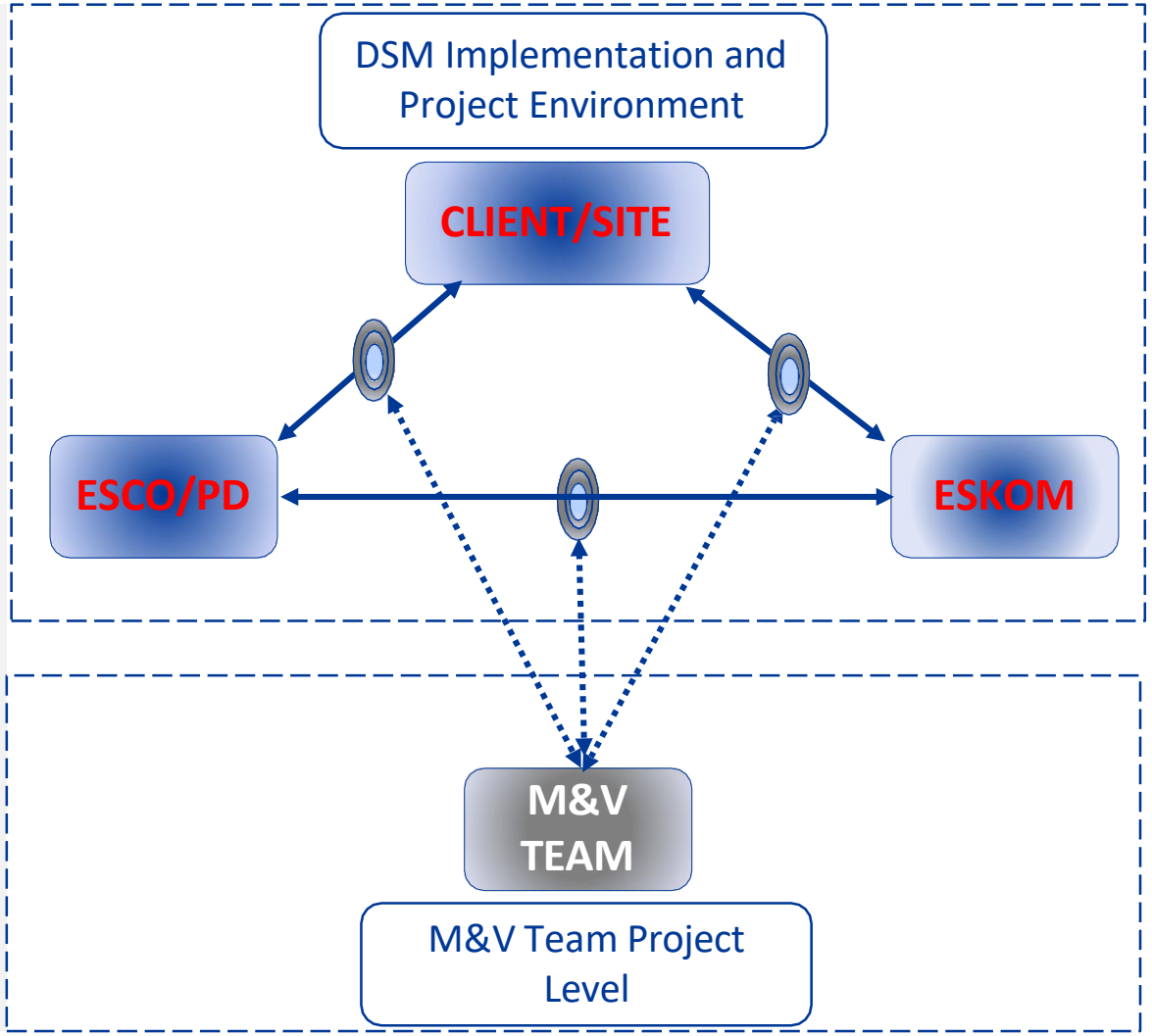
* Project Developer to complete project at their own costs.The performance based quarterly payments as per final M&V Performance assessment:
* Performance payment to be done by the Cluster PM with assistance from IDM CoE
* IDM CoE M&V PM will pay for reports (i.e, baseline, plan, scoping etc)



Measurement & Verification

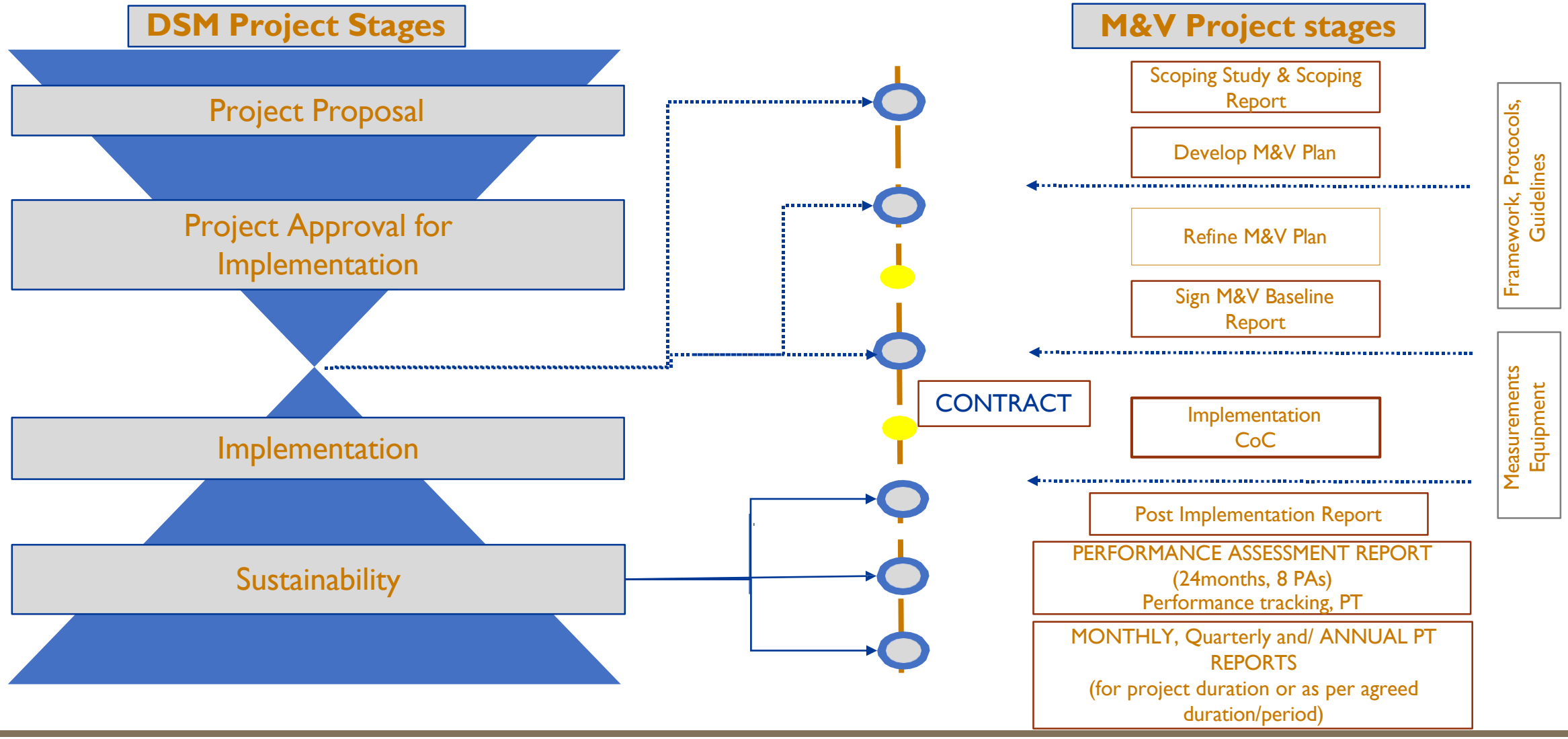
Measurement and Verification

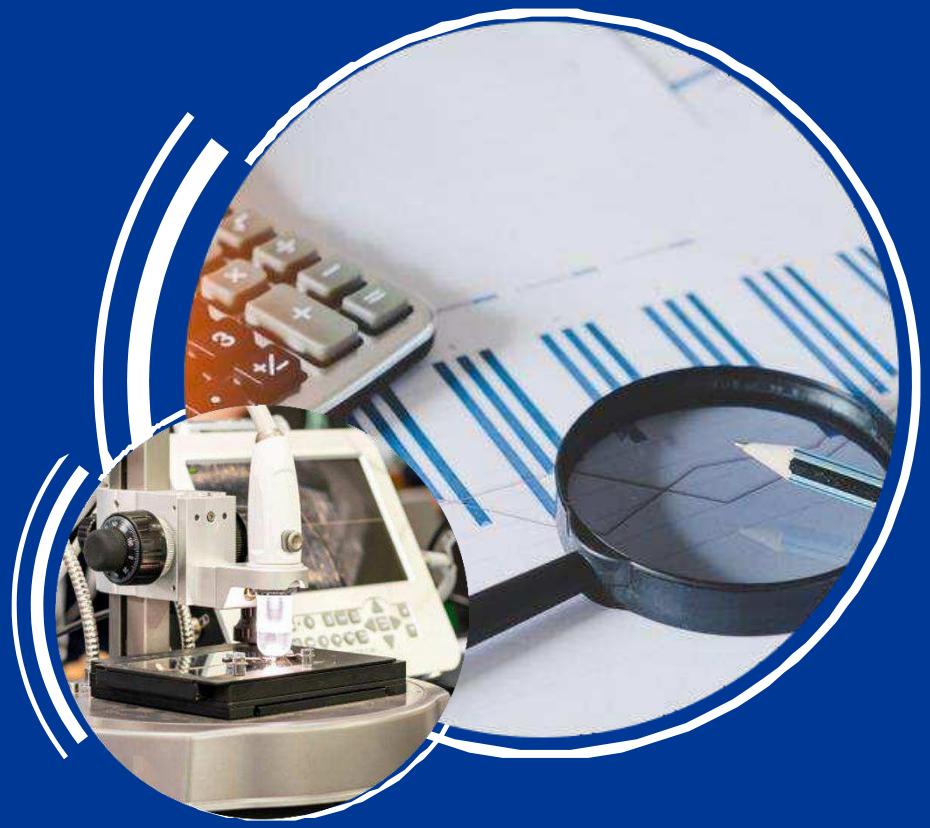
- Measurement and Verification consists of an independent analysis of energy and demand savings from implementing demand side management initiatives.
- Demand and Energy consumption is measured before and after implementing a DSM initiative and the savings are determined.
- M&V is based on the following principles: Accuracy, Completeness, Conservative, Consistent, Relevance and Transparency.
- M&V assists consumers, financiers, utilities, facility owners as well as a host of other stakeholders direct/indirectly benefitting from an energy efficiency initiative through quantifying possible energy savings.
- The function of M&V Service Provider is to independently and objectively protect the interest of all stakeholders by quantifying project impacts over the contractual life of a project. The M&V Service Provider must provide an impartial, credible, transparent and replicable process in alignment to the National M&V Standard (SANS 50010).



ISO 50015 – the International Standard "Energy Management Systems — Measurement and Verification of Energy Performance of Organizations — General Principles and Guidance", is available as national standard.

Interaction between Project Stages and M&V Stages





Microgrids

Customer Owned Containerised Microgrid

Outright Basic SALE of the installed Containerised Microgrid					
	32kW*	50kW**	100kW***	150kW****	200kW*****
Selling Price	R1 951 626	R2 347 454	R3 847 200	R5 817 186	R7 226 363
Maintenance	R84 489	R84 489	R84 489	R84 489	R84 489
Tech Support	R29 582	R29 582	R29 582	R29 582	R29 582

Outright Comprehensive SALE of the installed Containerised Microgrid					
Outright SALE	32kW*	50kW**	100kW***	150kW****	200kW*****
Selling price	R4 335 983	R5 194 912	R6 898 611	R9 321 590	R10 968 989
Maintenance	R84 489	R84 489	R84 489	R84 489	R84 489
Tech Support	R29 582	R29 582	R29 582	R29 582	R29 582

Key points

- Microgrid sizes and prices are an indication, actual size and price to be determined based onsite assessment
- Containerised microgrid size range available from 32kW to 200kW
- Microgrid size (non-containerised version) range available from 32kW to 1MW
- Basic sale/ lease excludes site preparation, customer to prepare site for containerized microgrid as per Eskom standard
- Comprehensive sale/ lease includes site preparation, Eskom to prepare site for containerized microgrid

Lease options (Eskom to own microgrid), monthly lease price

Basic CMG - Lease – 20 years					
	32kW*	50kW**	100kW***	150kW****	200kW*****
Lease	R14 637	R17 606	R27 264	R40 273	R49 647

Comprehensive CMG - Lease – 20 years					
	32kW*	50kW**	100kW***	150kW****	200kW*****
Lease	R30 487	R36 244	R47 760	R63 556	R74 789

Rent to own options (Customer to take microgrid ownership after 20 years), once off deposit and monthly lease price

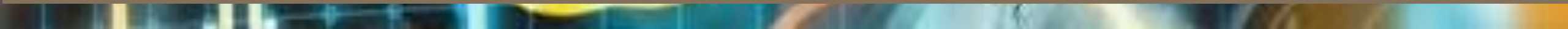
BASIC CMG Rent to own – 20 years					
	32kW*	50kW**	100kW***	150kW****	200kW*****
Deposit	R81 318	R97 811	R151 465	R223 738	R275 815
Lease	R14 445	R17 374	R26 905	R39 743	R48 994

Comprehensive CMG Rent to own – 20 years					
	32kW*	50kW**	100kW***	150kW****	200kW*****
Deposit	R169 374	R201 353	R265 331	R353 091	R415 492
Lease	R30 087	R35 767	R47 132	R62 721	R73 805

Standard Offer

Let's add
more Kilowatt-hours
to the Grid!

Your electricity *trading* and *grid* services *partner*



Standard Offer

Short Term Energy Purchases Programme

Enabling additional capacity into the Grid

Non-Eskom generation purchases

- Transmission network
- Distribution network.

Purchase pricing options

- Year-ahead time-of-use static adjusted annually by the average Eskom price increase
- Dynamic day-ahead per hour reflecting marginal costs of generation per hour.
- Choice of price option locked-in on 1 April for 12 months.

Terms

- 3-year contract
- With / Without a base-line
- With or shortly anticipating license / registration to generate.
- Traders with mandate from generation owners
- Maximum purchase contract value with a minimum 3-month review period.

Standard Offer

Short Term Energy Purchases Programme

Year-ahead **Static** time-of-use (ToU) pricing

NERSA allowed levels

- Based on the NERSA approved cost recovery for Eskom generation.
- Recovers the average cost of generation

Eskom purchase rate R/MWh

- High-demand: June to August
- Low-demand: Rest of year
- Contractual year is April to March
- ToU periods subject to Eskom Board decision at start of the year.

1 April 2023 to 31 March 2024

Commercial energy rate (R/MWh), excluding VAT		
	High-demand season	Low-demand season
Peak	3 638.90	1 510.14
Standard	909.73	849.08
Off-peak	606.48	606.48

Illustrative ToU periods

Proposed TOU hours		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
High demand season	Weekday	3	3	3	3	3	3	1	1	2	2	2	2	2	2	2	2	2	1	1	1	2	2	3	3
	Saturday	3	3	3	3	3	3	3	2	2	2	2	2	3	3	3	3	3	2	2	3	3	3	3	3
	Sunday	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	2	3	3	3	3	3

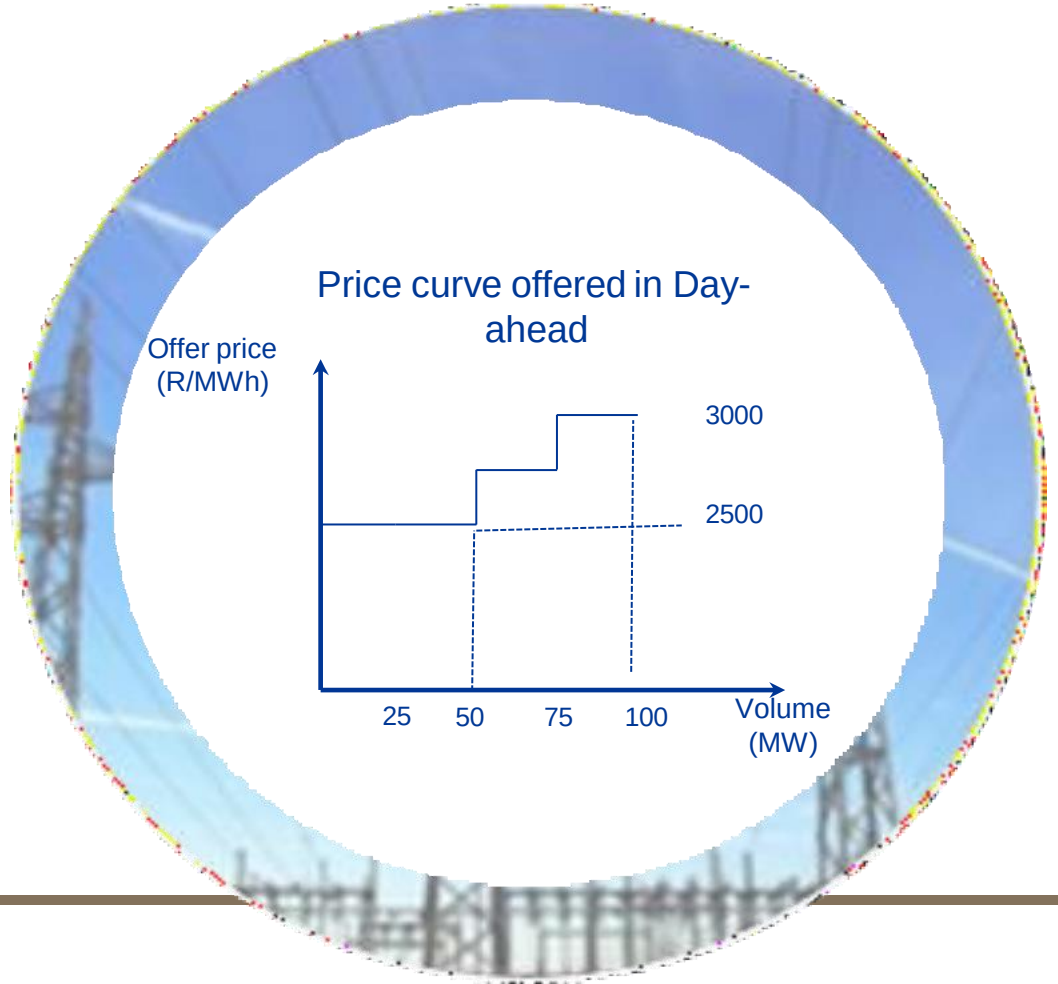
Proposed TOU hours		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Low demand season	Weekday	3	3	3	3	3	3	2	1	1	2	2	2	2	2	2	2	2	2	1	1	1	2	3	3
	Saturday	3	3	3	3	3	3	3	2	2	2	2	2	3	3	3	3	3	3	2	2	3	3	3	3
	Sunday	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	2	3	3	3	3

1	Peak
2	Standard
3	off-peak

Standard Offer

Short Term Energy Purchases Programme

Day-ahead Dynamic hourly pricing



EDEM determined levels

- Eskom dynamic energy markets (EDEM) is a day-ahead internal Eskom market.
- Prices calculated 14h00 the day before.

Dynamic purchase rate R/MWh

- Based on the marginal cost of generation in each hour.
- Subject to market price cap.

Standard Offer

Information and requirements highlights

Application

1. Primary Generator site details including:
   - If existing, new, Eskom or municipal point.
   - Grid connection voltage and nearest sub-station.
   - Gross generating capacity of facility (MW)
   - Net capacity of facility (MW)
   - Generating technology specifying type of fuel, maximum export capacity (MW) and if there any offset for own generation?

Conditions precedent

1. Grid code compliance
2. EIA approvals, and/or NERSA approval
3. Electricity generation license or certificate of registration
4. Certificate confirming compliance with conditions precedent.
5. Section 34 DMRE IPP PPA Facility to provide legal opinion on requisite capacity and authority to sell.

Commercial readiness

1. Synchronized, connected and/or commissioned Facilities
2. Procure the issue of the Notice of Commencement of each Facility.
3. Metering enabled for commercial sell of energy
4. Remote meter interrogation and data retrieval by Buyer with physical sealed inspection.

Commercial operation

1. Signed PPA
2. Daily day-ahead hourly generation forecasts by 09h00.
3. Seller operational and emergency contact personnel.

https://www.eskom.co.za//short-term-ennergy-purchase-programme/

Standard Offer

Short Term Energy Purchases Programme

- Online Application:

  https://forms.office.com/r/hdNBaMUvJz

- Power Purchase Agreement:

  https://www.eskom.co.za/distribution/wp-content/uploads/2023/03/StandardOfferApplicationFormSep2022.docx

- Email:

  det@eskom.co.za

- Website Link:

  https://www.eskom.co.za/distribution/standard-offer/

- Vendor Registration:

  vendormdm@eskom.co.za

Thank you