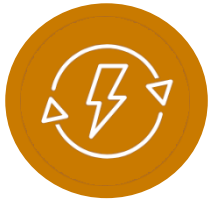
Distribution Demand Management Program

Performance Contracting - Energy Efficiency & Load Management Programmes

Industry Engagement Sessions
5th & 19th May 2023

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.

Eskom Website link: https://www.eskom.co.za/distribution/demand-management-programme/

CALL TO ACTION for WINTER: Protect our electricity supply – we can reduce stages if we do our bit

MB

Eskom

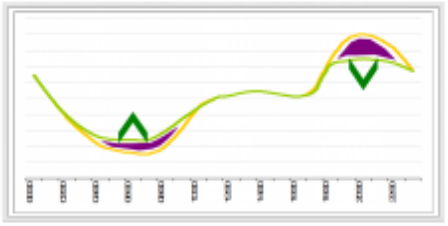
1 What have we done…

1. Eskom has **ACHIEVED 4500 MW** (Demand programs)
2. Eskom launched a **national incentive program targeting 1450MW over 3 years**
3. **SMART metering is being deployed** (>300 000) – customer support required
4. Aggressive Media campaign for a **CALL TO ACTION**
5. We have **implemented** a number of **pilots across various sectors**

2 What are we doing…

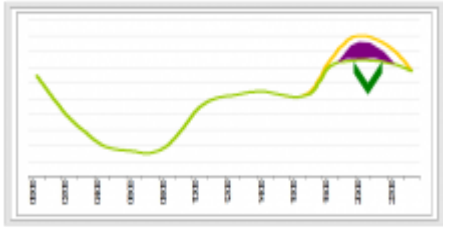
Program 1:

Load Management Programme (LM)



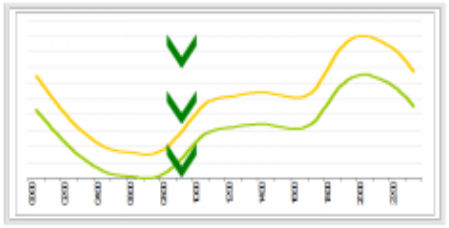
Program 2:

Residential Load Management (RLM)



Program 3:

Energy Efficiency (EE) Programme



3 What can you do….

How can you help to reduce loadshedding:

1. **Use only** the **electricity you need**
2. **Switch off** what is not needed
3. **Protect the electrical infrastructure** in your area
4. **Stop the Izinyoka** – they leave you in darkness
5. **Pay and be legal**
6. **Delay charging** should be implemented for **inverter systems**

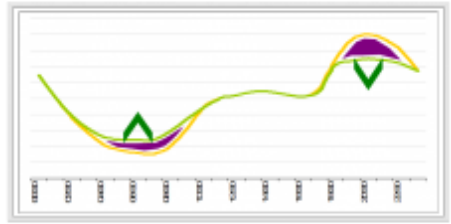
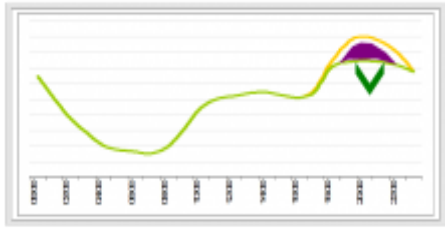
The Purpose of the Presentation

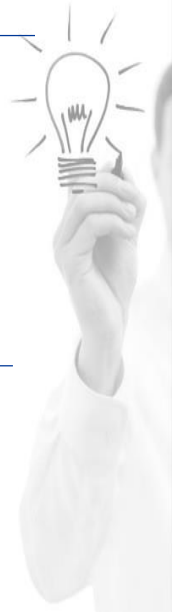
- Share information with the Industry about the the Eskom Distribution Demand Side Management (DSM) Initiatives
- Introduce the Performance Contracting model to be employed in the implementation of EEDSM contracted projects.
- Request Project Developers to take necessary steps to engage with customers to assess and preparation of the proposal submission to Eskom.
- Provide clarity on questions that Project Developers and Customers may have the on the implementation of DDMP Programmes



Distribution Demand Management Programme

The current DDMP follows a performance contracting approach. The DDMP is open to all customers that meet the qualification criteria whether supplied by a municipality or Eskom.

	Description	Outcomes achieved
DDMP - Program 1: Load Management Programme (LM)	▪ The objective of implementing the LM initiative is to reduce demand during the constraint evening peak periods. LM projects contribute to flattening the system load profile by managing customer's usage through clipping or shifting peak load. The programme is applicable to all sectors excluding the residential sector.	
DDMP Program 2: Residential Load Management (RLM)	▪ The objective of the RLM initiative is to shift evening peak demand to standard and off-peak periods. This plays a key role in reducing the demand during Eskom defined evening peak periods in residential households. The systems assists the residential customers to shift the hot water demand during peak period by remotely switching off their geysers.	
DMP Program 3: Energy Efficiency (EE) Programme	▪ The EE programme is an incentive-based programme for all customers to consider implementing EE projects. The programme is designed as a win-win that offers customers the opportunity of lowering their electrical energy input cost and for Eskom to address the much-needed capacity issue in the short term.	



Performance Contracting Model

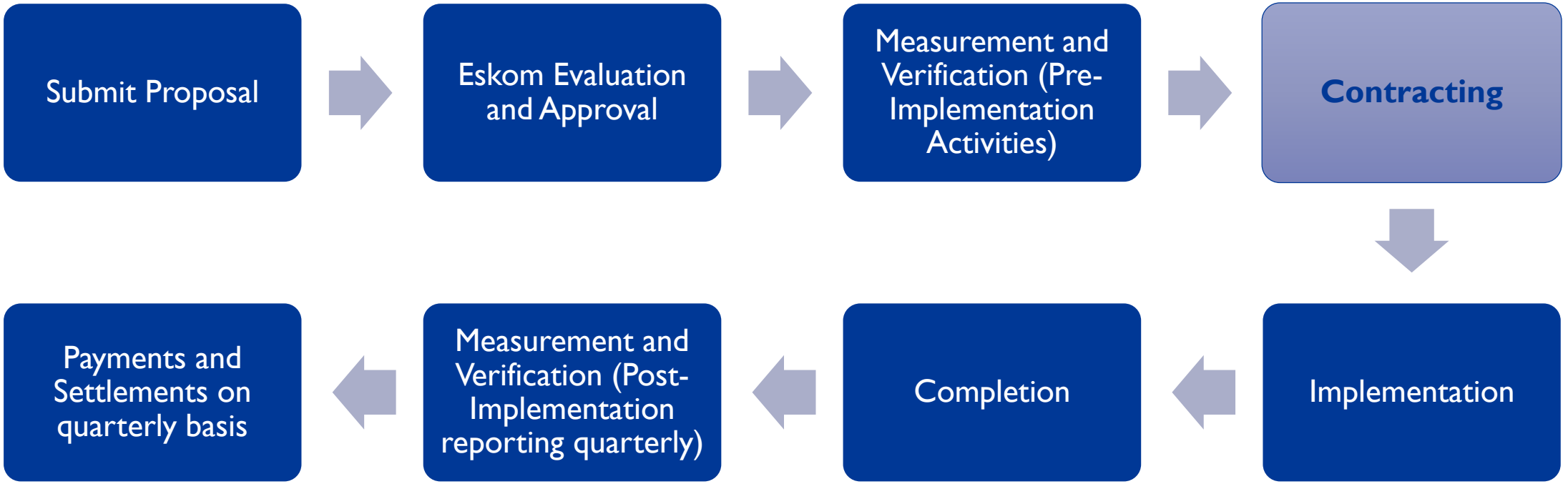
- The Project Developer must respond to the call for proposals providing the all the project information as required on the online advertisement.
- All approved proposals will be subject to an independent measurement and verification of the proposed baseline prior to contract award.
- Projects are to be financed upfront by the PD or customer.
- 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.

Note Gatekeepers

- Customer electricity bill must be up to date.
- No double dipping/claiming with other incentive programmes will be permitted

Eskom Website link: 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 42c/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 3 000 000.00
Total Project Cost		R 3 000 000.00

Sustainbility Periods	Target (MW)	Performace Achieved (MW)	% Performance against target	Payment Schedule	Cumulative Quartely % Payment	Payment	Cumulative Payment
Quarter 1	1.00	1.00	100%	12.50%	12.50%	R 375 000	R 375 000.00
Quarter 2	1.00	1.00	100%	12.50%	25.00%	R 375 000	R 750 000.00
Quarter 3	1.00	1.00	100%	12.50%	37.50%	R 375 000	R 1 125 000.00
Quarter 4	1.00	1.00	100%	12.50%	50.00%	R 375 000	R 1 500 000.00
Quarter 5	1.00	1.00	100%	12.50%	62.50%	R 375 000	R 1 875 000.00
Quarter 6	1.00	1.00	100%	12.50%	75.00%	R 375 000	R 2 250 000.00
Quarter 7	1.00	1.00	100%	12.50%	87.50%	R 375 000	R 2 625 000.00
Quarter 8	1.00	1.00	100%	12.50%	100.00%	R 375 000	R 3 000 000.00
					TOTAL	R 3 000 000	

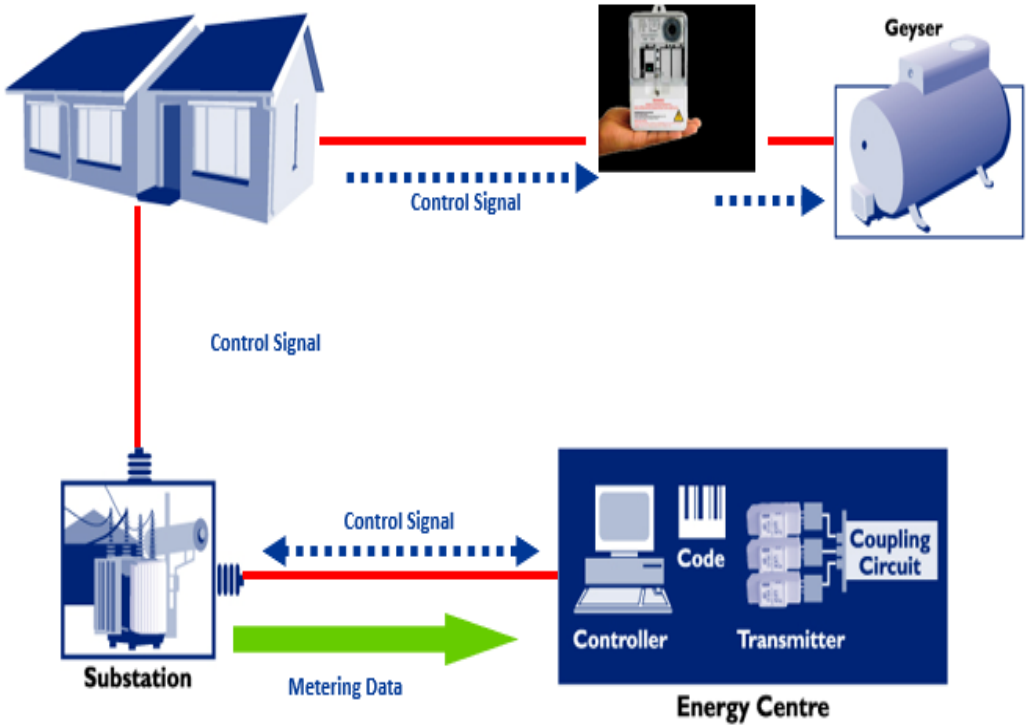
Performance based **Quarterly payments** **Total payment over 24months**

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

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

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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)

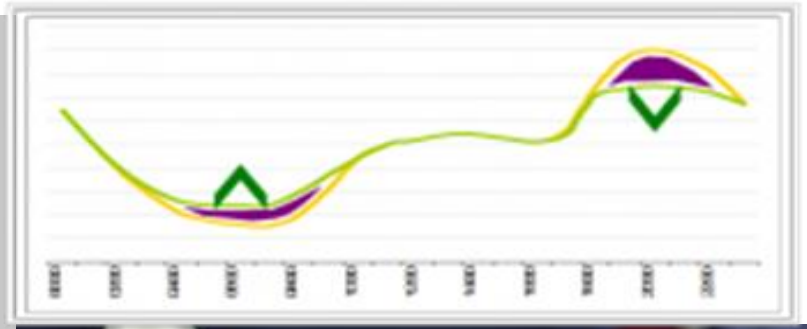
*M&V and Performance Payments for 8 quarterly periods

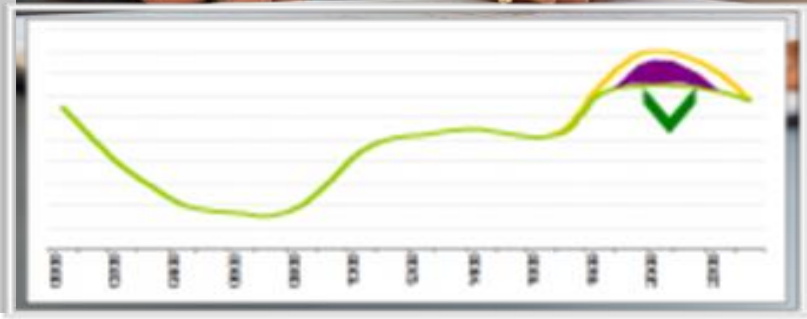
* Project Developer to complete project at their own costs. The performance based quarterly payments as per final M&V Performance assessment:
* Performance payment to be done by the Cluster PM with assistance from IDM CoE
* IDM CoE M&V PM will pay for reports (i.e, baseline, plan, scoping etc)

Load Management (LM)

Load Management Programme Criteria

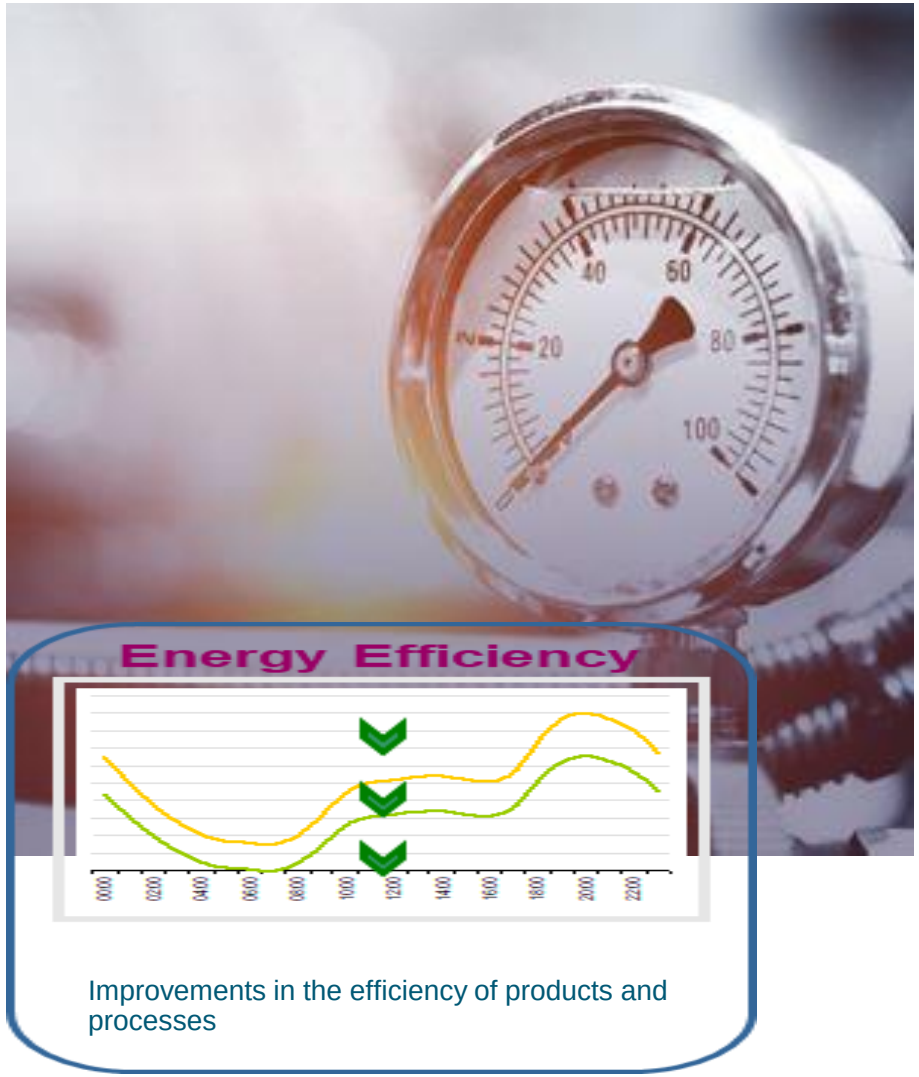
- Target Market: **All sectors (excluding residential sector)**
- Targeted period – **Eskom evening** peak (2hrs)
- Load Shifting and Peak Clipping are applicable.
- MW reduction is the average demand reduction over the evening peak period.
- A minimum demand reduction of **0.5MW at a single site** is required to participate;
- The maximum contract duration for the Load Management programme is **30 months**. Up to a maximum of 6 Months Implementation and 24 months sustainability.
- A M&V body will be appointed by Eskom to conduct all measurement and verification functions and to report on the performance of the project.
- 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



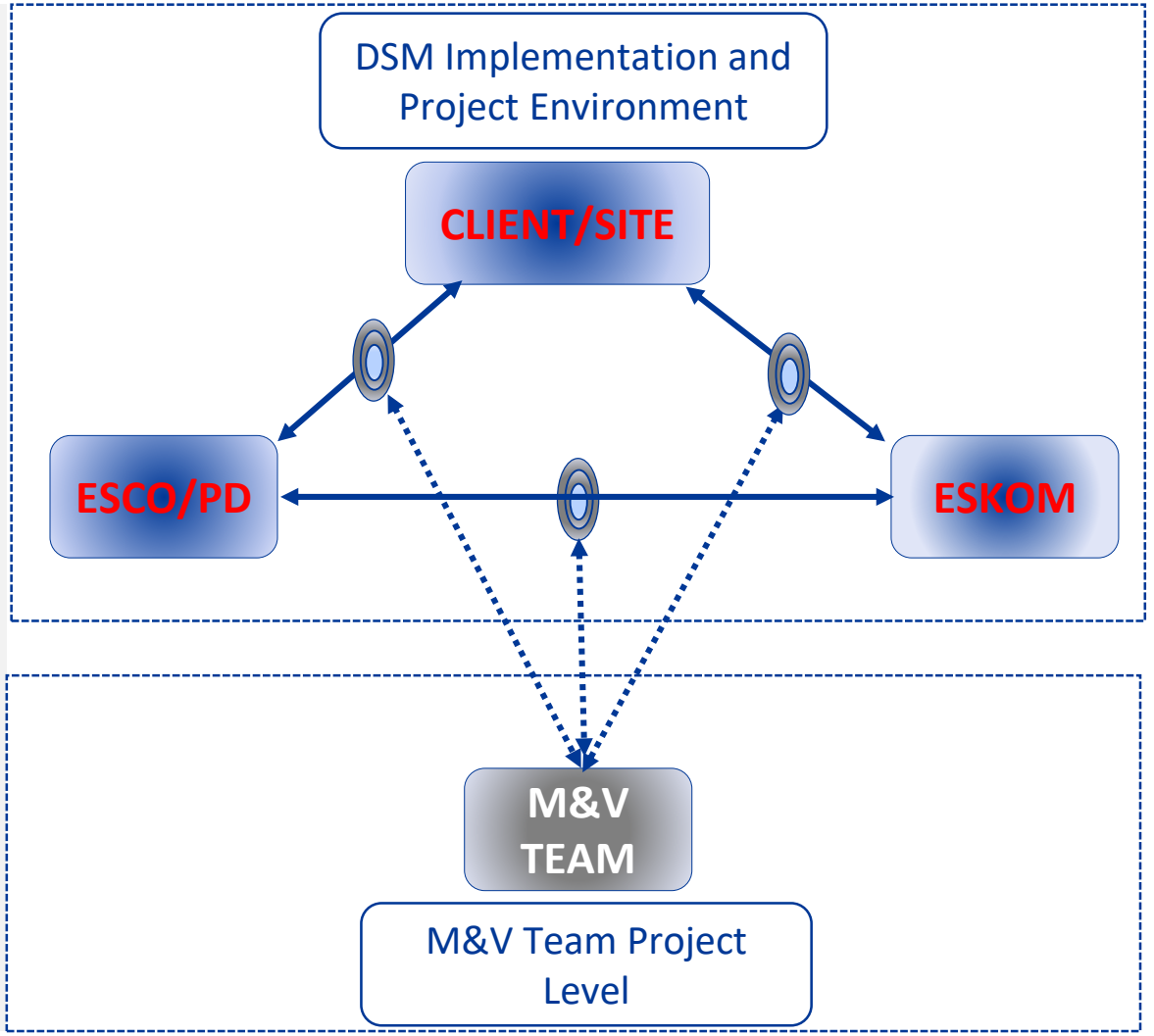
Improvements in the efficiency of products and processes

- Project developers must reduce a minimum average demand and energy of their consumption baseline respectively, measured between 6am and 8pm daily excluding weekends.
- A minimum average load reduction of 100 kW per quarterly period for 8 quarters over a 24-month sustainability term.
- The minimum energy savings applicable is 91 000 kWh/quarter. .
- The proposed sites will be limited to maximum of 5 sites per entity per 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.

Measurement & Verification

Measurement and Verification - Background

- 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).

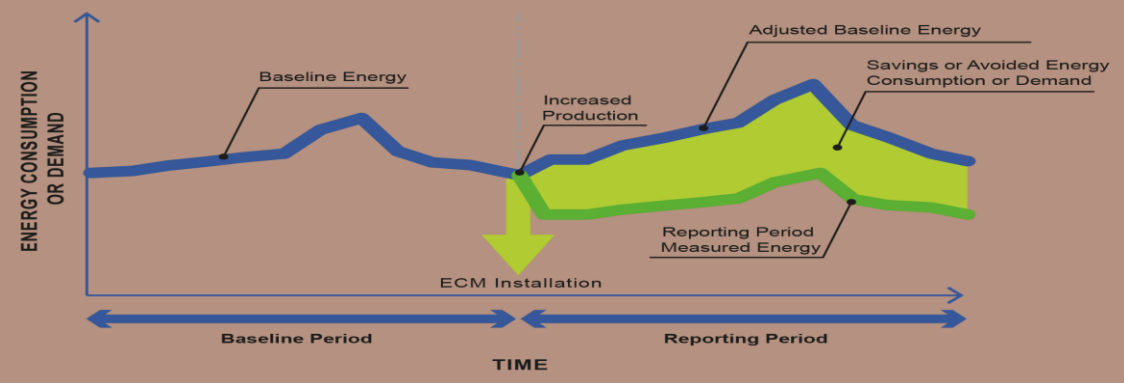


ISO 50015 – the International Standard "Energy Management Systems — Measurement and Verification of Energy Performance of Organizations — General Principles and Guidance", is available as national standard.

Key Guidelines, Protocols and Concepts in Measurement and Verification

Guidelines and Protocols

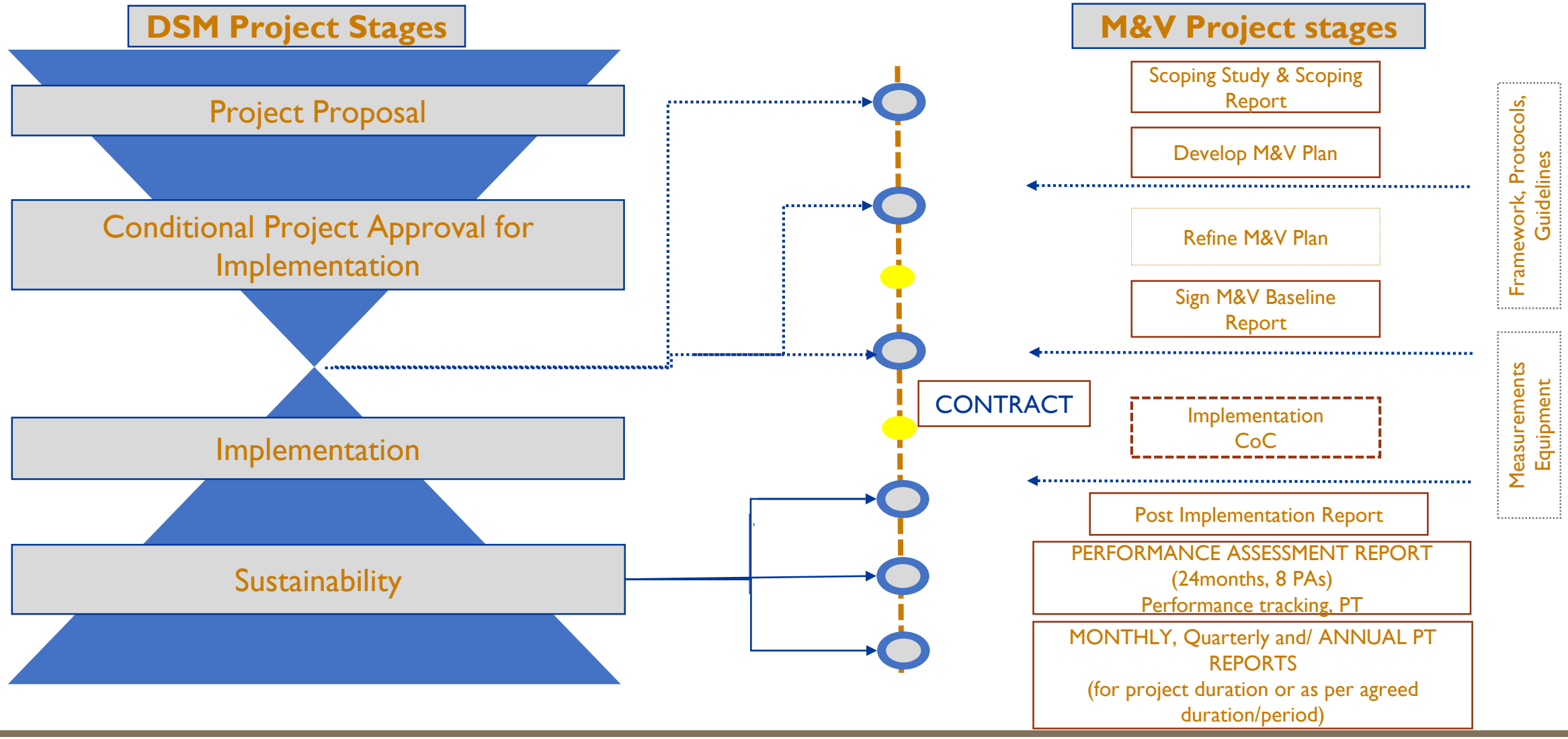
- The following guidelines are used as references for M&V:
- SANS ISO 9001 Quality Management Systems
- **SANS 50 010 Measurement and Verification of Energy Savings**
- **M&V Process Guidelines for Energy Projects -240-1596333**



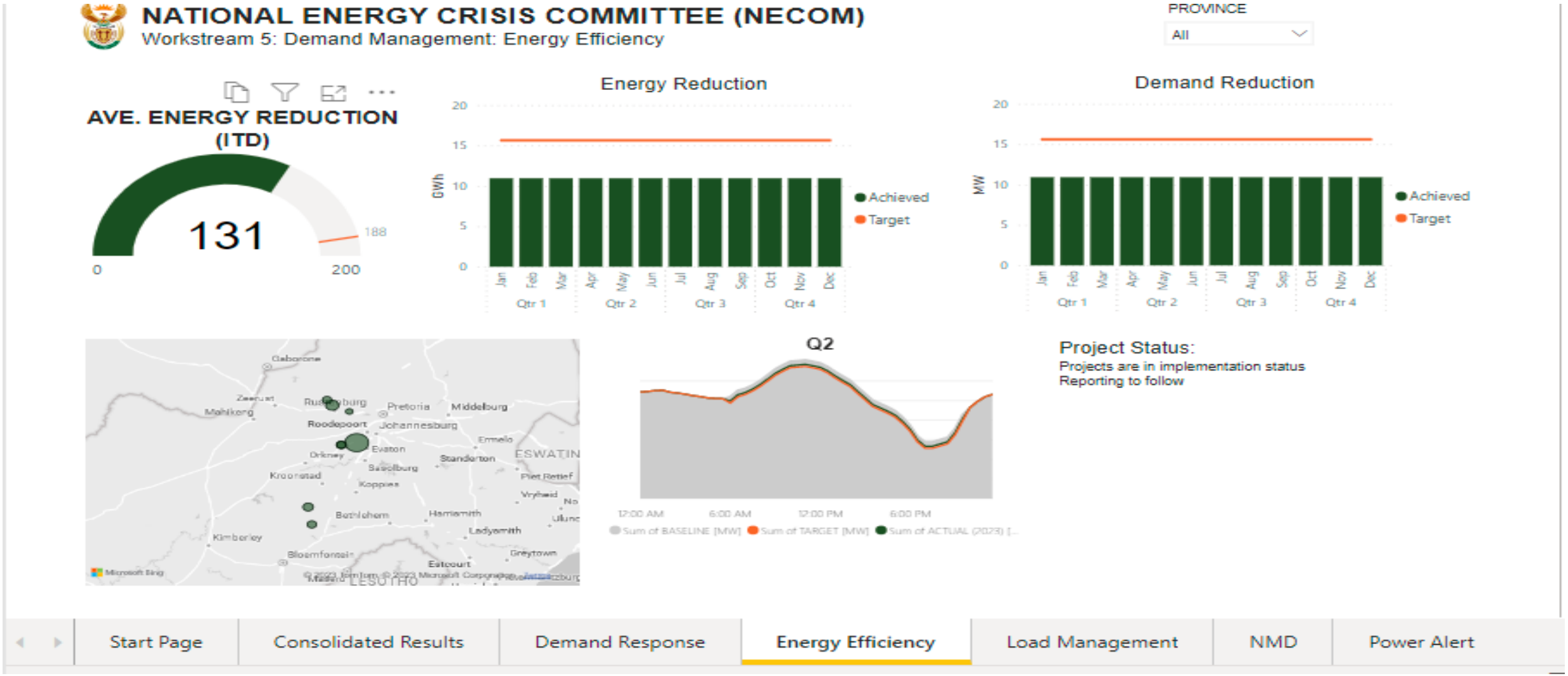
Concepts

- The Basic Savings Equation: **Savings = Baseline Energy – Post Implementation Energy +/- Adjustments**
- Baseline Energy is the consumption of energy prior to the implementation of an energy efficiency initiative.
- Post Implementation Energy is the consumption of energy after the implementation of an energy efficiency initiative.
- Adjustments – Very rarely does it occur that circumstances are exactly the same prior and post implementation of an energy efficiency initiative.
- However performance measurement requires an equal situation to quantify accurate savings. It may be that productivity, occupancy, seasonality has changed post implementation and therefore the baseline savings have to be "normalized" to arrive at a common set of conditions so that savings can be accurately determined.

Interaction between Project Stages and M&V Stages



Reporting Consolidated MW Savings Results- Dashboard



Thank you for attending