Department of Energy

South Africa

Policy to support the Energy Efficiency and Demand Side Management Program for the Electricity Sector through the Standard Offer Incentive Scheme

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energy

Department:
Energy
REPUBLIC OF SOUTH AFRICA

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Glossary

Item	Definition
BEE	Black Economic Empowerment
ECS	Energy Conservation Scheme
EEDSM	Energy Efficiency and Demand Side Management
ESCO	Energy Services Company
HVAC	Heating, Ventilation and Air Conditioning
IRP	Integrated Resource Plan
KIC	Key Industrial Customer
Minister	Minister of Energy
MYPD	Multi Year Price Determination
NEEA	National Energy Efficiency Agency
NERSA	National Energy Regulator of South Africa
SETA	Sector Education and Training Authority
SIC	Standard Industrial Classification
SMME	Small, Micro and Medium Enterprise
SWH	Solar Water Heating

Background

South African estimates of the energy efficiency potential are conservatively between 20-30% across many segments, and we have not harnessed the full potential to date.

EEDSM programs represent a win-win option by providing positive returns to energy consumers and the environment through the reduction of environmental pollution and the carbon footprint of the energy sector and by enhancing energy security. As South Africa embarks upon a massive capital program to increase our power generation capacity, the upward pressure on electricity tariffs will provide the impetus for saving energy. Undue tariff increases can be moderated through energy efficiency and it is beyond question that EEDSM needs to be encouraged more as it represents a "no-regret" option relative to supply-side options. This policy seeks to balance approaches based on regulation, incentives, and market based mechanisms at the same time as defining the role of government in accelerating EEDSM.

1 Introduction

As South Africa's electricity demand rises, we have traditionally met this demand by merely increasing the supply. Having recognised that energy efficiency represents an economically attractive option, this policy focuses on the management of the electricity demand through energy efficiency interventions within the residential, commercial and industrial sectors. Amongst the outcomes to be achieved through the EEDSM policy are:

1) Quick power system relief;
2) Relative cost effectiveness;
3) Quick deployment of interventions across the residential, commercial and industrial sectors to create SMME opportunities and quality employment;
4) Mitigation of greenhouse gas emissions and the resultant climate change impacts;
5) Participants will realise relief from their energy bills.

2 Legislative provisions for EEDSM

The Electricity Regulation Act of 2006 (the Act) introduced a new regulatory framework for the electricity industry, with additional EEDSM obligations to existing licensees. Section 15(1) (u) of the Act requires every licensee to comply with energy efficiency standards and demand side management. The Act also empowers NERSA to amend, add or remove any licence condition at the same time as obliging NERSA to implement national government's electricity policy.

The Energy Act was promulgated in 2008, with provisions for the introduction of regulations for energy efficiency.

It is the express intention of this policy to give regulatory certainty to these provisions in the Electricity Regulation Act and in the Energy Act.

3 Objectives of the EEDSM Policy

This policy intends to stimulate energy efficiency through (i) enabling regulations and institutional governance structures, and (ii) introducing targeted financial incentives. Accordingly, the objectives of this policy are to:

1) Provide the framework regarding the regulator's role and responsibility pertaining to various EEDSM interventions.
2) Provide for the integrated resource plan to include a resource standard for energy efficiency, to ensure that the "first fuel" option relating to energy efficiency is exploited ahead of more expensive supply side options;
3) Provide the framework for a tariff-based financial incentive (the standard offer) necessary to stimulate energy efficiency;
4) Introduce a governance structure for the standard offer model for financing EEDSM interventions, including the respective roles and responsibilities of various roleplayers;
5) Provide for regulatory certainty regarding the scope and extent of tariff-based financial incentives for EEDSM; and
6) Provide the framework for the setting of targets relating to various EEDSM interventions in the domestic, commercial and industrial sectors.

4 Role of the regulator in facilitating EEDSM

The regulator is responsible for tariff determination, in accordance with the Electricity Regulation Act of 2006. In addition to making tariff determinations and the promulgation of a standard offer, the regulator shall:

- Determine the generation avoided cost in relation to the EEDSM intervention, so as to determine the level of standard offer rebate;
- Ensure that the EERS funding provision is included in the MYPD;
- Introduce rules that will apply to licensees in regard to the EERS and the standard offer methodology;
- Ringfence the allowance for the EERS in the MYPD and ensure that it is accessed by ESCOs/licensees only subject to the promulgated rules;

- Ensure that a cost recovery mechanism is in place for all disbursements by Eskom/System Operator pursuant to the EEDSM rules;
- Develop a reporting framework for EEDSM by licensees;
- Monitor and evaluate the achievement of EEDSM interventions by various ESCOs;
- Approve the basis for compensation for other EEDSM interventions like residential load management, fuel switching etc;
- Ensure sufficient communication and understanding of EEDSM among all stakeholders.

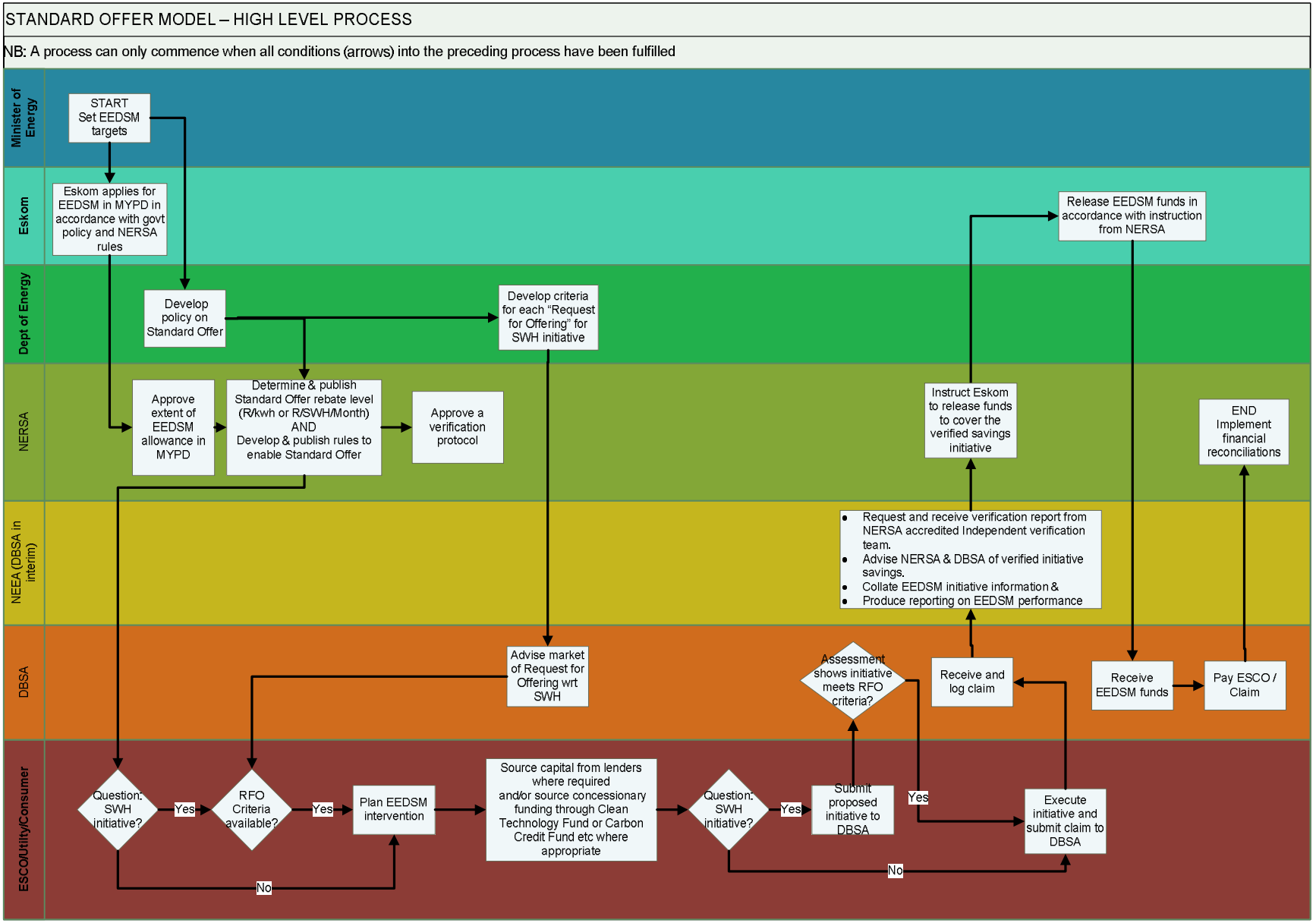
5 Stipulation of the energy efficiency resource standard

An energy efficiency resource standard (EERS) is a quantitative, long-term energy savings target that is met by implementing energy efficiency programs to help customers save energy. The Minister of Energy shall set the EERS and it shall be the responsibility of the non-utility third party, NEEA, to meet the EERS in accordance with the standard offer model described below.

The IRP shall stipulate the EERS over the planning period, and the regulator shall include the commensurate financial incentive in the tariff, to fund the EERS.

6 Standard offer model

The standard offer is a mechanism to acquire demand-side resources (energy efficiency/load reduction) under which a utility purchases resources based on a pre-determined rate (e.g., R/kWh or R/kW). Purchase rates can be determined by the long-run marginal cost of supply or estimated subsidies necessary to attract commercial bids. ESCOs, equipment suppliers or other organizations that can deliver energy/demand savings at the agreed rate are eligible to submit projects and are paid once the projects have been implemented and savings certified by an authorized monitoring and verification organization. The respective roles and responsibilities of various entities are illustrated hereunder:


STANDARD OFFER MODEL – HIGH LEVEL PROCESS
NB: A process can only commence when all conditions (arrows) into the preceding process have been fulfilled
Minister of Energy
Eskom
Dept of Energy
NERSA
NEEA (DBSA in interim)
DBSA
ESCO/Utility/Consumer
START Set EEDSM targets
Eskom applies for EEDSM in MYPD in accordance with govt policy and NERSA rules
Develop policy on Standard Offer
Develop criteria for each "Request for Offering" for SWH initiative
Release EEDSM funds in accordance with instruction from NERSA
Approve extent of EEDSM allowance in MYPD
Determine & publish Standard Offer rebate level (R/kwh or R/SWH/Month) AND Develop & publish rules to enable Standard Offer
Approve a verification protocol
Instruct Eskom to release funds to cover the verified savings initiative
END Implement financial reconciliations
Request and receive verification report from NERSA accredited Independent verification team.
Advise NERSA & DBSA of verified initiative savings.
Collate EEDSM initiative information &
Produce reporting on EEDSM performance
Advise market of Request for Offering wrt SWH
Assessment shows initiative meets RFO criteria?
Receive and log claim
Receive EEDSM funds
Pay ESCO / Claim
Question: SWH initiative?
Yes
RFO Criteria available?
Yes
Plan EEDSM intervention
Source capital from lenders where required and/or source concessionary funding through Clean Technology Fund or Carbon Credit Fund etc where appropriate
Question: SWH initiative?
Yes
Submit proposed initiative to DBSA
Yes
Execute initiative and submit claim to DBSA
No
No

Role	Description
Minister of Energy	• Sets the EEDSM targets
Eskom	• Takes cognisance of the government policies and NERSA rules relating to EEDSM and applies for EEDSM in its MYPD application • Collects the EEDSM funding through the wholesale tariff • Releases the EEDSM funding upon instruction from NERSA
Department of Energy	• Develops policy on the Standard Offer with differentiated approaches for SWH and other EEDSM initiatives • Provides for the Energy Efficiency Resource Standard (EERS), which is the extent of the long-term funding for the EEDSM to cover the electricity savings purchased under the Standard Offer, in the IRP • Develops criteria for "Request for Offers" relating to the available Solar Water Heating subsidy in the MYPD cycle
NERSA	• Approves EEDSM allowance in MYPD • Develop rules to enable Standard Offer • Instruct Eskom through the EEDSM rule to release funding at appropriate time • Determines Standard Offer Rebate levels (R/kwh or R/SWH/month) • Approve verification protocol • Implement financial reconciliation of EEDSM funds in relation to target savings
NEEA (in the interim DBSA)	• Request and receive verification reports for each EEDSM initiative under the Standard Offer • Advise DBSA and NERSA of verified savings per initiative • Collate reports and produce EEDSM performance reporting for industry
DBSA	• Will serve as the single point of contact for concessionary funding for project developers wishing to develop initiatives under the Standard Offer • Will serve as the single point of contact for individuals/entities wanting to claim for electricity savings against the EEDSM funding • Will perform functions identified for NEEA in Standard Offer Model until NEEA is fully capacitated and able to take over the

	function • Advise market when the Department of Energy makes the criteria available for the next "Request for Offers" • Receive and manage the EEDSM funds in accordance with the Standard Offer Policy and NERSA rules when Eskom releases the funds • Pay verified claims
ESCO / Utility / Consumer	• Understand the Standard Offer Policy and criteria for Request-for-Offers • Initiate an intervention that complies with Standard Offer and NERSA rules • Source the required capital expenditure, at risk, to implement the EEDSM intervention • Submit claim to DBSA to redeem the capital investment over the life of the investment

7 Energy efficiency interventions supported under the standard offer

1) Public facilities and housing programme

This programme shall cover all government-owned buildings (particularly hospitals and clinics, prisons, military barracks, offices etc.) and private residential dwellings. Commercial buildings targeted under this program include offices, hotels and other hospitality facilities, employee compounds at mines, refineries and power stations etc.

Existing housing developments are also included, and SWH, ceiling insulation and efficient lighting shall be the key interventions.

Generally, interventions in respect of the building envelope shall include efficient lighting, insulation improvement, more efficient HVAC systems, installation of lighting and motion sensors etc.

The standard offer shall be rebated in respect of the verified energy savings that have been achieved i.e. subject to the performance of the ESCO. The verification protocol shall be determined and ratified by NERSA.

2) Building energy codes

New building codes are due to be introduced in 2010, in terms of which the energy efficiency standard will also be made compulsory for all new buildings. The distinction between this program and 6(1) above is that this relates to new buildings, and not to retrofitted buildings. Once the building codes are promulgated into a compulsory standard, the standard offer rebate shall not be applicable in respect of energy efficiency interventions in those buildings.

3) Solar water heating

The standard offer rebate shall apply, except that a further qualification shall be introduced:

Initially every installed SWH shall be deemed to displace 200 kWh per month ('the SWH saving"), for purposes of simplicity, and accordingly a monthly rebate shall be payable based on:

Rebate per month = Standard offer (in R/kWh) X 200 kWh per month

In time the regulator may adjust the SWH saving (upwards or downwards) in line with empirical evidence regarding the actual energy saving achieved by a SWH.

The Minister may determine, in consultation with the regulator, that the standard offer needs to be revised upwards or downwards as necessary to increase the efficacy of the incentive. This adjustment to the standard offer may be done up to 3-times in a single MYPD cycle.

4) Energy Conservation Scheme

The Energy Conservation Scheme (ECS) is critical as part of a contingency plan for the industrial sector, to conserve energy in the event that an electricity load-shedding risk materialised. The key elements of the plan shall be:

Element 1:

All key industrial electricity customers (KIC) with a monthly consumption above a certain threshold ("the threshold" in GWh per annum) shall be required to submit

their historical baseline consumption profile ('the baseline" in monthly GWh points spread over one year) over any preferred 12-month period, to the licensee by 30 June 2010. The threshold shall initially be set at 100GWh per annum at a contiguous site. The licensee shall negotiate the baseline with the customer and the regulator shall ratify (i) the threshold and (ii) the baseline in consultation with the licensee.

Element 2:

The Minister sets a reduction target in respect of the industrial segment under which the KIC operates (based on SIC codes). The reduction target shall be included as part of the EERS in the integrated resource plan. NEEA shall record the baseline in respect of each KIC.

Element 3:

The regulator determines the tariff level (as part of MYPD) on a punitive scale, for consumption above the baseline. Consumption above the baseline leads to the KIC being charged the penalty tariff in respect of the GWh consumed above the baseline. Similarly, consumption below the baseline leads to the KIC attracting the standard offer rebate in respect of the GWh consumed below the baseline. NEEA shall keep a tally of the penalty/rebate applicable in respect of each KIC.

Element 4:

The standard offer model payment regime shall apply in respect of the ECS.

8 Training, capacity building and accreditation

Energy efficiency interventions have the potential to create numerous job opportunities. The EEDSM program shall be accompanied by a training and capacity building initiative, in terms of which the localisation of energy products and services shall be prioritised. Energy Auditing, Manufacturing, Installation, and Maintenance have been identified as focus areas for training and capacity building.

The training of ESCOs in various technologies shall be formalised through various academic institutions and professional bodies. In general, training shall be accredited through the various formal channels, including SETAs.

9 Funding of ESCO initiatives

Government shall assist in mobilising funding for ESCOs for energy efficiency interventions. Sources include:

- Clean Technology Fund
- local and international development financial institutions
- carbon funding agencies
- commercial banks

Preference in directing concessionary funding mobilised by government shall be given to ESCOs that align with government's developmental goals, including BEE and SMME development.

Where the entity implementing the EEDSM initiative does not comply with the provisions of this policy framework, the standard offer rebate shall not be provided in respect of their EEDSM initiatives. Nonetheless, market based EEDSM initiatives that do not require incentives are also encouraged.