

Department of Energy

Overview on the National Energy Efficiency Strategy
(NEES)

IEP Public Workshop



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Outline

- Background and context
- National Energy Efficiency Goals
- National Energy Efficiency Strategy (NEES) Objectives
- NEES Implementation
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- National EE Interventions
- NEES Implementation Regulations
- Energy Efficiency Monitoring System
- Conclusion



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Background on 2005 National Energy Efficiency Strategy

- The White Paper on Energy Policy (1998) gives a mandate to the Department of Energy (DoE) to pursue Energy Efficiency programmes which is one of the lowest cost options for reducing energy consumption.
- The NEES, was approved by Cabinet and released in 2005 to explore the potential for improved energy utilisation through reducing the nation's energy intensity (thus reducing greenhouse gas emissions), and decoupling economic growth from energy demand.
- The original NEES stated that “Government will ensure that the necessary resources are made available to establish systems and legislation to facilitate the specification, collection, storage, maintenance and supply of energy-related data, according to the requirements of integrated energy planning and international standards.”



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National Energy Efficiency Strategy Goals

- The NEES outlined how an overall energy intensity reduction target of 12% by 2015 could be achieved with the following sectoral energy efficiency improvement targets:
 - ❖ Industry and Mining (15%),
 - ❖ Commercial and Public buildings (15%),
 - ❖ Residential (10%)
 - ❖ Transport (10%), and Power Generation Sector (15%)
- The Implementation plans were drawn up for each of the sectors with forecasted targets of energy use reductions based upon assumptions about energy demand over the next 10 years (2005 – 2015 using the 2000 year baselines), including the associated drivers, such as the economic development and population growth.



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National Energy Efficiency Strategy Objectives

The Vision of the NEES is “Reducing the energy intensity of the economy through energy efficiency”

Achievement of this vision will assist in fulfilling the following national objectives:

- ❖ Enhancing energy security by making better use of existing and new generation capacity.
- ❖ Improving South Africa’s global competitiveness through reduced energy input cost.
- ❖ Decoupling growth in energy consumption (and GHG emissions) from growth in GDP.
- ❖ Improving global competitiveness will, in turn, contribute to job creation.



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National Energy Efficiency Strategy Implementation

- As part of implementing the 2005 NEES, interventions were to be implemented by concentrating on no-cost and low payback options with a high impact. These were to be followed by medium to long-term higher investment interventions.
- Legislative frameworks required
- Tracking of impact through adequate data capturing and EE Monitoring systems in line with international best practice updates.
- Incentives as enabling instruments



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1st & 2nd NEES Review Process

- In 2008, the Department undertook the first review of the NEES, however the review document was not favourably received by most of the stakeholders as it was clear on the comments from the public consultation process.
- The comments needed a more radical alterations including clear definition of energy efficiency, monitoring system and baseline information, etc.
- In 2011 the second review of the National Energy Efficiency Strategy (NEES) started,
 - ❖ Sectoral workshops to discuss the scope and elements of the NEES that needed serious attention
 - ❖ Focused discussions on required legislation, regulations and standards.



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2nd NEES Review process: EE Policy Mapping Study

- In 2012 October, Cabinet approved the release of the second review NEES document for public consultation which closed in January 2013 too many request for extensions pushed the process to close in February and consolidation of the comments was done in March 2013.
- During the review process, an EE Policy Mapping Study was conducted in collaboration with SANEDI and GIZ.
- The outputs of the study provided a **comprehensive policy and legislative context** for the development of the National Energy Efficiency Implementation/Action Plan (NEEAP) for the Republic of South Africa.



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2nd NEES Review Process: EE Policy Mapping Study (2)

- The purpose of this policy assessment was to:
 - ✓ **understand** the existing energy efficiency policy and regulatory environment, key initiatives and programmes, and the stakeholders
 - ✓ develop the framework for a **monitoring tool and action plan** to be used to assist in the development of a coordinated, unified and effective approach to:
 - energy efficiency,
 - energy conservation and
 - demand-side management.

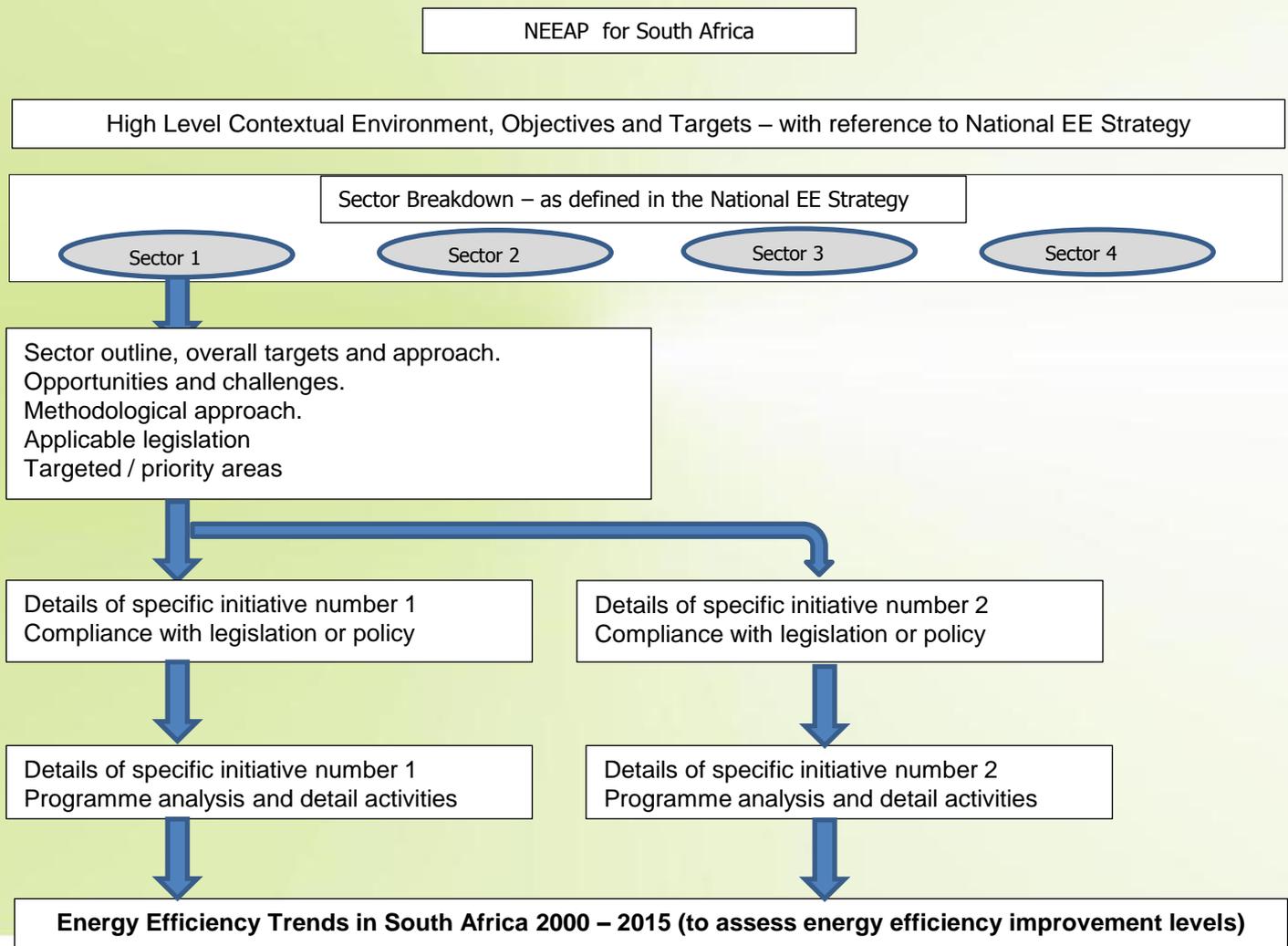


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Proposal for SA NEEAP Structure

Alignment between individual programmes and overall objectives



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2nd NEES Review Process

- Revision was in line with the 2015 targets – targets unchanged to 2015
- The focus was more on lessons learnt, **identifying the gaps** and how the gaps were and are being addressed and also focus on potential areas of improvement or strengthening opportunities and propose future recommendations.
- The NEEAP has listed **priority activities** to be implemented **annually**
 - ❖ including adjustments of sector/sub-sector baselines, and
 - ❖ post-2015 NEES targets and programmes.
 - ❖ energy efficiency **monitoring** system,
 - ❖ **reporting** mechanism, **energy management** regulations and plans,
 - ❖ functional energy efficiency **incentive scheme**.
 - ❖ measurement and verification of **energy savings**,



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NEES Implementation Progress:

- The Regulations for Tax Allowance on Energy Savings have been developed in terms of Section 12L of the Income Tax Act.
- Regulations in terms of Section 12i of the Income Tax Act administered by the dti aimed at the large manufacturing investments (i.e. upgrades, expansions or new facilities that exceed R30 million and R200 million respectively).
- MEPS for household electricity appliances and energy performance of buildings.
- These Regulations are expected to be promulgated prior to the end of financial year.
- Mandatory provision of energy management plan is being considered with stakeholders – Draft Regulations on Energy Management are in progress.
- (SANEDI) is expected to facilitate the certification process prior to companies claiming the incentive through the South African Revenue Service (SARS).



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Summary of National Energy Efficiency Options

(Options - All Energies)

Energy Conservation

Clarification of term:
Reducing the Consumption of Energy without impacting on Production and/or Safety

Example:
Turning off lights in unoccupied areas or after hours

Energy Efficiency

Clarification of term:
See Definitions
Included here to show how "pure" EE fits with other options available

Example:
Replacing lights with more efficient alternatives

Energy Substitution

Renewables

Clarification of term:
Adding renewable or "Green" generation capacity on the demand side of utility supply

Example:
Installation of Solar PV panels to reduce electricity purchased from Utility

Other, e.g. Fuel Switching

Clarification of term:
Switching energy consumption to a different energy source SEE NOTES on fuel switching

Example:
Changing from Electrode boilers to gas-fired boilers or vice versa

Re-Generation / Own-Generation

Generating energy from waste which is fed into the demand side of the utility supply to lessen the use of the utility supply

Example:
Generating electricity from waste-heat or from burning waste material

To reduce the energy intensity of the South African economy through improvements in energy efficiency, target of 12% by 2015 for all uses of energy is set



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National Energy Efficiency Interventions

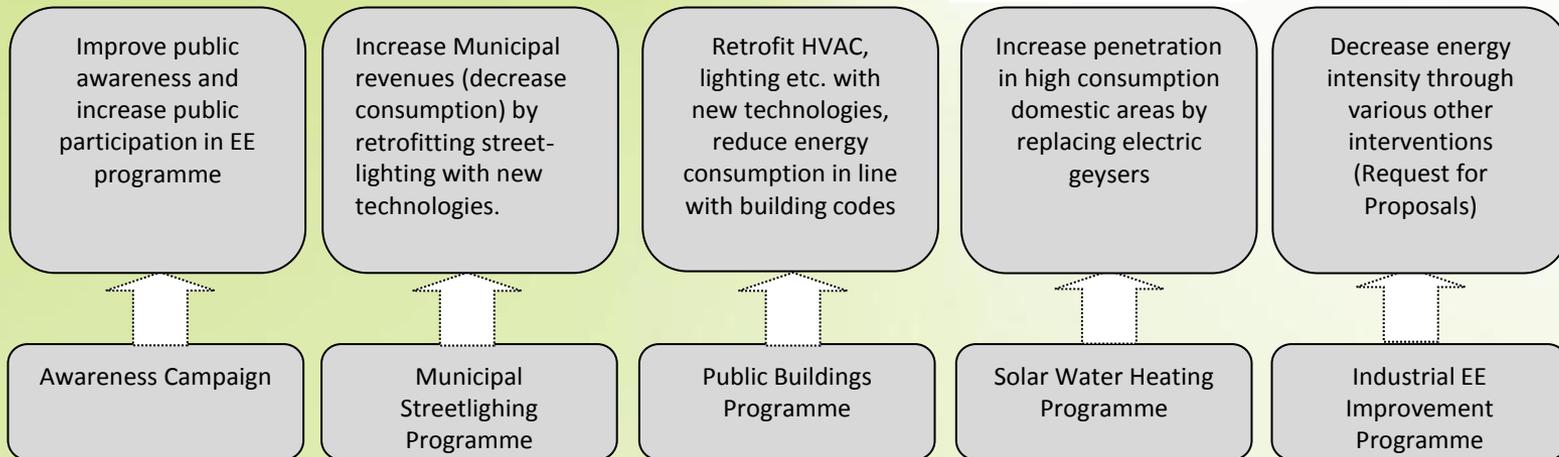
- 49m campaign
- Other campaigns including schools etc.

- Localize supply of LED technology for street-lighting
- Source supply-install of efficient lighting tech
- Measure impact relative to baseline

- Collate database of public buildings
- Measure baseline consumption
- Source supply-install of technologies that reduce consumption
- Measure impact relative to baseline

- Source supply of product that is >80% local content.
- Source installation and maintenance
- Initiate Standard Offer model for solar geysers
- Measure impact relative to baseline

- *Solicit various interventions through a Request for Proposals*
- *Measure impact relative to baseline*



Policy, Institutional Arrangements, Standards and Regulatory Mechanisms including the Measurement of baseline consumptions in respect of each programme followed by monitoring of targets

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Proposed Reporting on Energy Management and Monitoring Data (2)

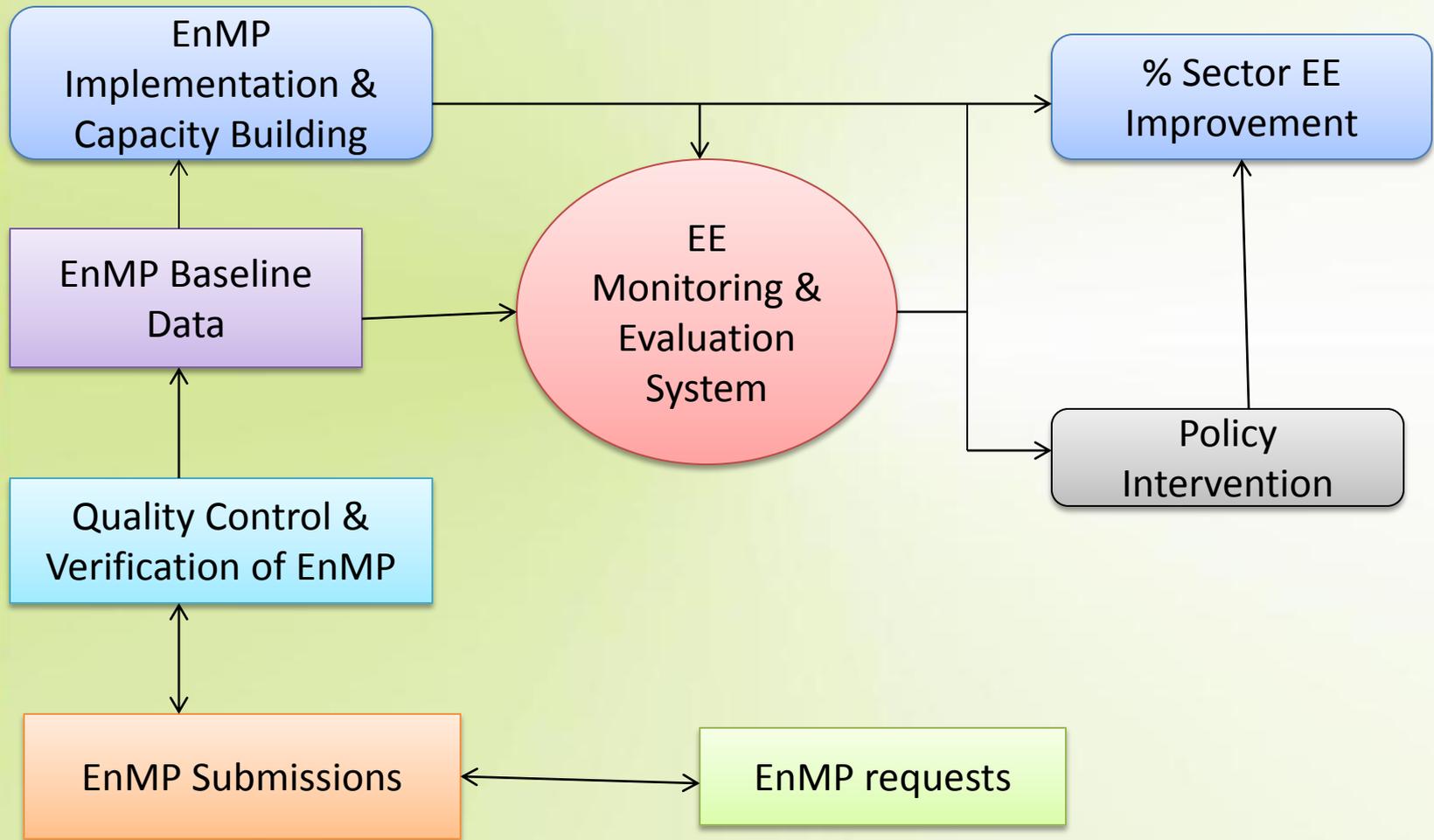
- In addition to energy management, the reporting will include procedures and templates on the provision of required data for the monitoring system
- Submission of the Energy Management Plans (EnMP) will be in accordance with the pre-determined annual energy consumption threshold (TJ), whilst the required data for the monitoring system will be sector specific.
- Energy Management Plans will assist in quantifying projected energy savings and monitoring of the achievements



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EnMP Submission Process



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Conclusion

- The Energy Efficiency Monitoring System being developed will provide an assessment of the energy intensity reduction and contribution of each sector.
- The implementation of NEEAP will assist in streamlining intervention measures to improve energy efficiency.
- Development and implementation of EE standards, compulsory specifications and regulations on energy efficiency will also be considered during this period;
- The NEES review strengthened the plan for the process to establish post-2015 NEES targets and measures.



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