

Opportunities and challenges for EE/EELA project implementation in Southern Africa

UNIDO - EELA Stakeholder Forum 2023

SAEEC as Umbrella structure



Promoting Energy
Efficiency Industry



Umbrella body for
Associations &
Specific User
Groups for
Sustainably
Developing the
Energy Efficiency
Industry



Knowledge
Sharing and
Networking



Growth and
development of
people

ENERGY EFFICIENCY – The Context

30%

Estimated Energy
Consumption of the
Commercial and Public
Building Sectors

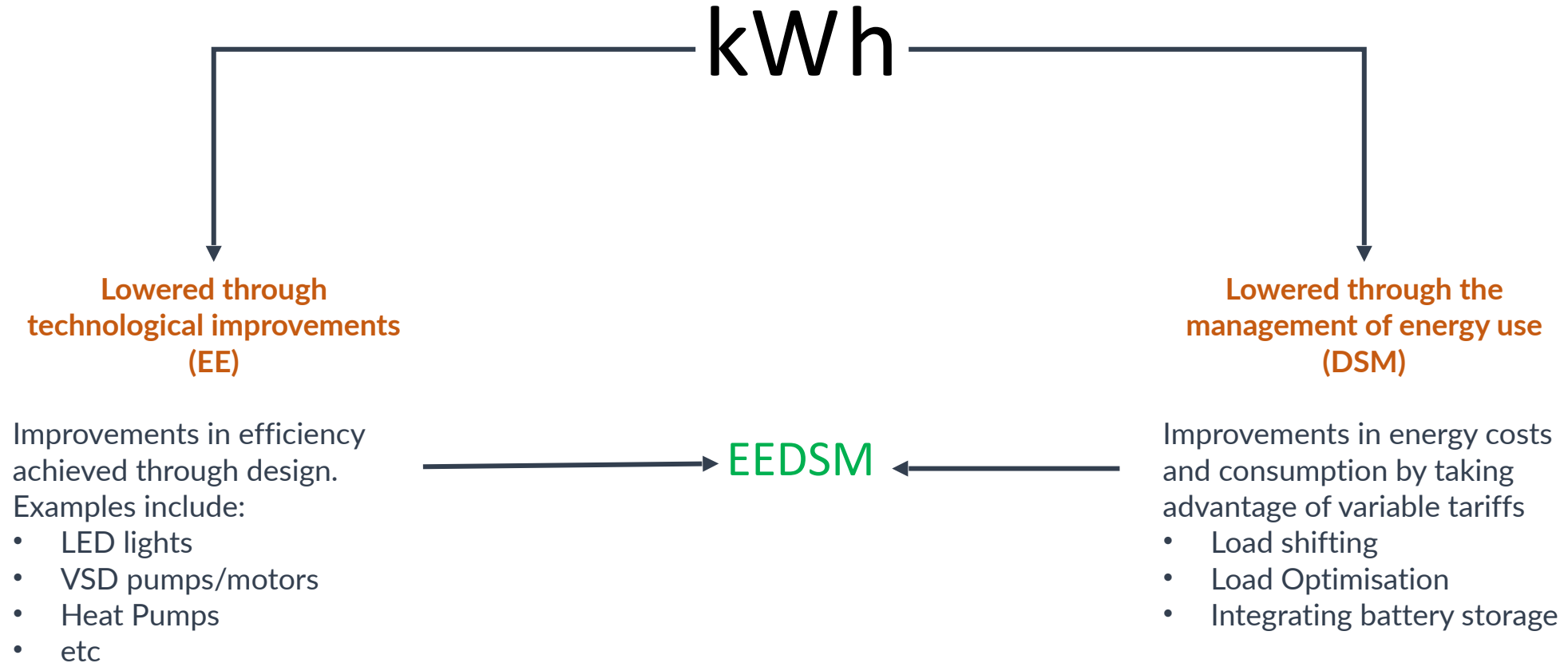
60%

Estimated Energy
Consumption of HVAC
Systems in Buildings

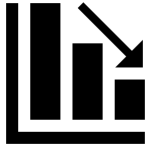
25%

Potential Energy Efficiency
Savings in the Commercial
and Public Building Sector

ENERGY EFFICIENCY – Energy Consumption



ENERGY EFFICIENCY – Benefits



01 Lower Energy Consumption

Implementing energy efficiency retrofits can lower energy consumption provided production/demand does not also rise

Lower energy consumption also means lower operating costs



02 Lower GHG Emissions

Using less energy means less coal or diesel burnt to produce it. About 60% of electricity used in buildings

This will help the country meet its COP climate change commitments



03 Job Creation

The process of becoming energy efficiency leads to the upskilling of people. This is inline with the “Just Energy Transition”.

It is particularly important for the EsCo development in South Africa

IMPROVED PRODUCTIVITY AND MODERNISATION

ENERGY EFFICIENCY – Ordered Steps



01 Energy Management Policy

In order to achieve optimal and sustainable energy savings it is important to have a energy management policy supported by upper management.

ISO 50001 is an effective standard to adopt



02 Energy Audit

“You cannot know where you are going if you do not know where you are”

An audit is necessary to understand your energy consumption and identify energy efficiency interventions



03 Software Support

To effectively implement and main a energy management policy for large building portfolio owners, a software platform connected to smart meters is necessary for Monitoring, Measurement and Reporting (MMR)

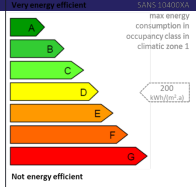


03 Financing

Energy efficiency requires financing like all capital projects, therefore making it part of the annual financial planning is key.

Note that energy efficiency projects tend to have a good return on investment (ROI)

ENERGY EFFICIENCY – Ecosystem of Programs



NAMA Facility



01 Energy Performance Certificates for Buildings (EPC)

EPC regulations require for the mandatory display of EPCs in public (>1000m²) and private buildings (>2000m²).



02 NAMA/EEPBP Funding

Funding available for energy efficiency retrofits in the public sector and the development of the EsCo market. EsCos implement energy efficiency projects

03 EEDSM Funding

EEDSM funding is available for municipalities to implement energy efficiency initiatives through the government municipal budget

04 Section 12L Tax Incentive

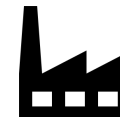
Tax incentive at 95c/kWh for energy or energy equivalent savings achieved from energy efficiency projects. Targeted at the private sector

05 EsCo Market Development Program

Development and training of EsCos carried out by SANEDI. EsCos have been evaluated, and ranked into three (3) tiers.

06 UNIDO NCPC Smarter Cleaner Energy

Energy management programme targeted at industry



ENERGY EFFICIENCY – Target Areas



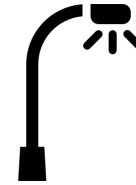
01 Public Buildings

Energy efficiency retrofits of public buildings across the country. Aim to make them more efficient and reduce carbon emissions. Focus is on lighting retrofits and HVAC system upgrades



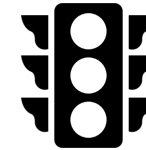
02 Energy Efficient Lighting

Replace CFLs and Fluorescents lights with modern LED technology



03 Street Lights

Replace halide based high mast street lights with LED technology



04 Traffic Lights

Replace old incandescent street lights with LED technology

ENERGY EFFICIENCY – Challenges



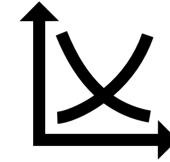
Lack of Awareness

- Most facility owners are not aware of the regulations and the available support



Procurement Practices

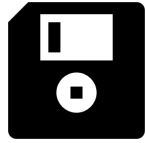
- Facility owners tend take the first consultant to approaches them. This leads to price inflation and a lack of competitiveness.
- This has been a particular issue with the implementation of the section 12L tax incentive



Pricing

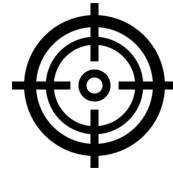
- Initial prices were too high per EPC, making obtaining one costly for building owners.
- However, with more awareness and exposure, this has redressed itself
- Free market working well

ENERGY EFFICIENCY – Challenges



Availability of Data

- Poor data capturing and retention practices mean there is a lack of availability of energy consumption data.
- The wide adoption of smart metering is starting to address this problem



Accuracy of Municipal Invoices

- EPC is kWh/m². Where energy is the main variable
- Higher energy than is accurate leads to poor performance
- Often municipality invoices display energy consumption than what is metered
- But municipal invoices are the easiest way to obtain energy data



Lack of Talent

- There is a lack of capacity to implement energy efficiency programmes particularly at the public level
- Training and sensitisation will help with this
- Knowledge transfer requirements are being put into most procurement TOR

SPEAKER



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THANK YOU!

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