

Background

MEMS refers to a structured and systematic process of continuous monitoring of energy consumption and the planning of actions to optimise the energy consumption and its related costs. They provide a systematic approach to understanding and managing energy use. It considers energy systems holistically and introduces a structured process that enables the integration of aspects such as policy, budgets, and organisational structures. This systematic integration facilitates engagement across departments and enables:

- Identification of energy cost centres
- Monitoring energy supply and consumption
- Identifying opportunities for energy savings
- Planning and implementation of energy saving interventions
- Monitoring and reporting on the impact.

Implementing energy management systems can strengthen a municipality's ability to systematically identify and implement energy efficiency improvements in infrastructure such as buildings, public lights and water treatment plants. The ongoing electricity supply shortages, rising electricity costs and the need to transition to a low carbon economy, necessitate municipalities to improve their energy management systems and reduce their energy usage. Energy efficiency should be considered first by municipalities in their energy transition. Adopting energy management principles can enable a systematic development of bankable energy efficiency projects that will reduce energy usage and related costs. Improved energy management in municipalities will help improve service delivery and mitigate the impact of electricity supply shortages.

Field of Intervention:

Municipal Energy Management Systems (MEMS)

Support for Municipalities: Energy Management Systems empower municipalities to reduce costs and keep the lights on in buildings and streets.

Municipal Energy Management Systems

MEMS are established to systematise the process of managing municipal energy use.

Key elements of a MEMS are:

- Setting Energy **Policy**
- Establishing appropriate **organisational structures**
- Ensuring appropriate **skills and knowledge**
- Establishing energy **information systems**
- **Marketing and communicating** energy-related information
- **Investing** in energy conservation
- **Implementing** energy conservation interventions

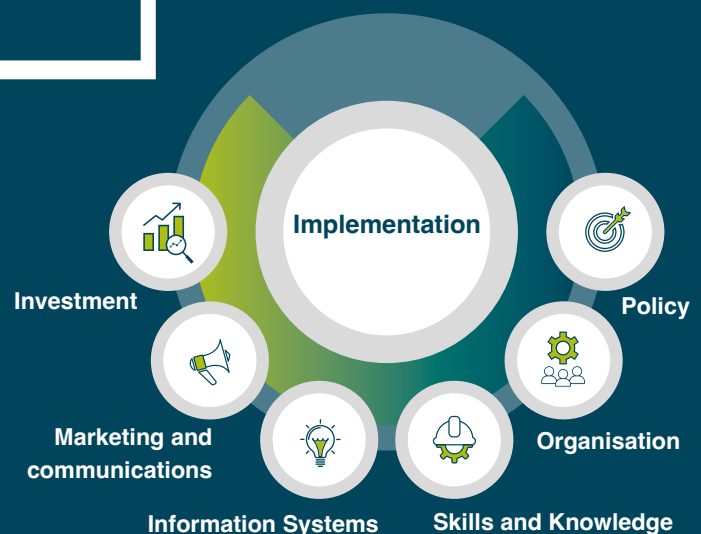


Figure 1. Elements of MEMS

The main objective of the MEMS programme is to support municipalities with embedding energy management systems within their municipal infrastructure operations.

Development of the Support Formats

2019



Facilitating knowledge exchange between municipalities and providing support on specific energy management topics.

2020



Providing profound support to six district and local municipalities in developing a municipal energy management system.

2022



Profound support to seven additional municipalities (any) in developing a municipal energy management system.

2025 on-wards



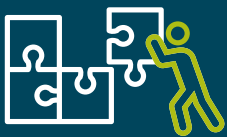
Disseminating knowledge to dissemination to a broader group of municipalities, particularly on best practices and lessons learned.

Partners



The MEMS Programme was launched in 2019 and is being implemented with the Department of Mineral Resources and Energy (DMRE, now Department of Energy and Electricity (DEE)), Sustainable Energy Africa (SEA) and the South African Local Government Association (SALGA).

Activities and Support Mechanisms



The programme offers **technical support** to selected municipalities on the establishment of MEMS and conducive conditions for the development of energy efficiency measures in an integrated, holistic and sustained manner. Direct support to selected municipalities is complemented by a strong focus on knowledge dissemination to a broader group of municipalities, particularly on best practices and lessons learned.

The approach followed is outlined below:

- 1. Information Systems:** Developing sound asset data and data management practices. Several tools have been developed to assist municipalities with monitoring consumption patterns for their infrastructure.
- 2. Organisation:** Building organisational structures, policies and procedures for a sustained energy management effort.

- 3. Skills and Knowledge:** Building the capacity of the staff and the organisation through “learning by doing” and mentoring. Although the approach is time consuming, it is effective in building energy management understanding and developing organisational buy-in for MEMS.
- 4. Investment and Implementation:** Developing project pipelines, action plans and accessing available funding streams to reduce internal spending and optimise budget.
- 5. Knowledge Exchange:** Sharing lessons learnt and experiences among municipalities, with emphasis on bringing across learnings to a broader group.

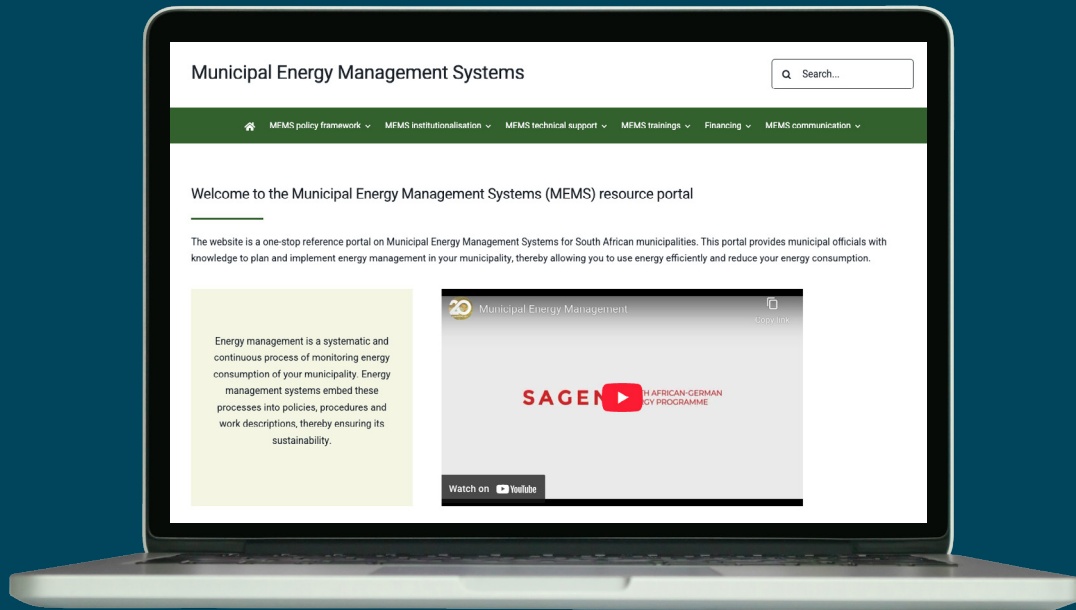


Image 1. Participants of exchange workshop among municipalities in November 2024 (© GIZ/ Bizana Meyong)

Available resources for self-paced learning and implementation of MEMS:

MEMS Element	Available resources	Description
Policy	MEMS policy frameworks	Template and guidelines on the development of an energy management policy.
Organisational structures	Making the case for MEMS	Templates on energy management committee terms of reference, energy manager job descriptions and energy efficiency action plans.
Information Systems	Eskom Bill readers and MEMS tool (<i>available upon request</i>)	Eskom bill readers and the energy monitoring tool enables municipalities to forecast, analyse and generate historic consumption reports among other features.
Skills and knowledge	MEMS Training Material	Training material on MEMS and information on upcoming exchange events.
Investment and Implementation	Financing - MEMS	Guidelines, case studies and tools on procurement and financial analysis of energy efficiency interventions.
Marketing and awareness	Communications material	Case studies, posters, brochures and templates for communication plans

For more information on MEMS:



<https://www.memsresources.org.za/>

Access resources such as:

MEMS Tool and bill readers

Templates and guidelines on the elements of MEMS

Standardised specifications for public lighting retrofits

Case studies on the implementation of MEMS

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The South African-German Energy Programme (SAGEN) collaborates with South African partners to support the country's transition to a reliable, affordable and clean energy future. SAGEN is funded by the German Federal Ministry for Economic Cooperation and Development (BMZ), co-funded by the Swiss State Secretariat for Economic Affairs (SECO) and implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH in cooperation with the Department of Mineral Resources and Energy (DMRE), the National Treasury (NT), Eskom, the South African Local Government Association (SALGA) and the South African National Energy Development Institute (SANEDI).

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April 2025