25 June 2021
Ground Rules

• Kindly **mute** your microphone during the presentations.

• Use the **“Raise Hand”** button in case you would like to ask a question or to add something in the conversation.

• **Type** your comments and questions (English or French) in the *group chat* on the right of your screen.

Virtual and interactive!
Energy Efficient lighting and appliances market in East and Southern Africa

Fungai Alphonce Matura – Private Sector Specialist - EELA Project
East and Southern Africa
AT A GLANCE

21 Countries

450 Million Inhabitants

Economies CONTINUE TO GROW

US$ 803.4 billion Cumulative GDP in 2017

Very low ELECTRIFICATION RATES
Averaging 60%
As well as energy insecurity due to low generation capacity

Poverty remains PERSISTENT

As impacts of climate change intensify
EELA OBJECTIVES & APPROACH

EELA seeks to develop vibrant markets for energy efficient lighting and appliances across 21 countries in East and Southern Africa.

The EELA approach to change

- **Market incentives** for the private sector to deliver efficient and high-quality energy services
- **Minimum Energy Performance Standards (MEPS)** for appliances which are harmonized in the region
- **Capacity building** on policy and regulatory framework development, appliances testing and regulatory enforcement
- **Awareness raising** on the benefits of adopting efficient technologies across all stakeholders

Implemented by UNIDO in collaboration with regional sustainable energy centres

Funded by the Government of Sweden

Switch it on!
EELA Interventions

- Development on MEPS for various appliances (GSL, cooling appliances, etc.)
- Development of a monitoring, verification and evaluation (MV&E) framework
- Development of a private sector intervention strategy
- Capacity building, awareness raising and private sector support actions
- Supporting development of national EE programmes
- Stakeholder engagement to raise awareness on the project and identify focal points
- Environmental management actions
- Development of regional EAC energy efficiency policy
Barriers Hindering Market Transformation

- Import oriented markets with no common policy framework for energy efficient lighting and appliances – absence of MEPS in most countries
- Significant barriers still exist around awareness, access to finance and skills
- Ad hoc versus systematic approach – need for transformation
- Lack of capacity to develop and implement regulations such as MEPS
- Challenges with enforcement capacity including local testing facilities
- Challenges on border control and leakage
- Lack of motivation for the private sector to invest as standards are not enforced - Small country focused markets
- Lack of service providers with viable business models that can deliver efficient energy services
Benefits of Transforming to EE product Markets

➔ Household savings - reduce household energy bills
➔ Grid reliability - reduce electricity shortages (brown-outs / black-outs); reduces peak power demand
➔ Save national investment - reduce capital and loans tied up in power stations and grid upgrades; slow new demand growth
➔ Market protection - avoid becoming dumping-ground for technologies banned elsewhere
➔ Energy imports - reduce capital out-flow for fuel purchases / electricity imports; strengthen national energy security
➔ Climate change mitigation
**Savings potential across Eastern and Southern Africa**

- **Savings of 41 – 68 TWh/yr in 2030 across EAC and SADC***
- **Equal to 5 - 8 times Kenya’s total electricity consumption (IEA, 2016)**
- **Avoids 18 - 30 coal-fired powerplants**, costing US$22-37 billion to build


**Assuming US$2,500/kW and a 500MW power plant operating at 0.50 availability, producing 2.19 TWh/yr.**

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*Switch it on!*
EELA Private Sector Support Facility

Technical Assistance (TA) to potential clients e.g. municipalities, cities or industries to design energy efficiency service business models and to engage an energy service company

Financial Support is provided to energy service companies to particularly support the upfront costs for the purchase of equipment (co-financing facility)

- Conducted dedicated Country Private Sector Meetings
- BUSINESS MODELS – EPC, LEASING, CaaS, LaaS – Innovation
- EE TECHNOLOGIES – Lighting, Cooling, Productive Use
Energy Efficiency Policies for Lighting and Appliances

Denis Ariho, Lead Technical Expert for EAC, EELA Project, EACREEE
Energy efficiency policies for lighting and appliances

• Lighting, appliances and equipment account for more than 50% of the total global electricity demand and expected to double by 2050 in developing countries (C2E2 2021).
• Implementation of suitable energy efficiency policies can contribute to 40% reductions in emissions.
• Well designed, mandatory energy efficiency standards eliminate inefficient products from the market.
• Energy labels empower consumers to make informed choices on products to purchase.
• Energy efficiency standards and labels should be given priority in the country’s energy efficiency policies and programmes.
Energy efficiency policy landscape in SADC

<table>
<thead>
<tr>
<th>Country</th>
<th>Energy Policy</th>
<th>EE Policy Framework</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Policy</td>
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<tr>
<td>Angola</td>
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<td>Botswana</td>
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<td>Madagascar</td>
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<td>Malawi</td>
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<td>Mauritius</td>
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<tr>
<td>Mozambique</td>
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<td>Namibia</td>
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<tr>
<td>Seychelles</td>
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<tr>
<td>South Africa</td>
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<tr>
<td>Tanzania</td>
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<td>Zambia</td>
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<tr>
<td>Zimbabwe</td>
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<td>D</td>
</tr>
</tbody>
</table>

D – Under Development, R – Under Revision, Y - Available (1)

(1) REESAP for EA-SA-IO under COMESA/ESREM Project
Energy efficiency policy landscape in EAC

<table>
<thead>
<tr>
<th>Country</th>
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<tbody>
<tr>
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<tr>
<td>Uganda</td>
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<tr>
<td>Tanzania</td>
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<td>South Sudan</td>
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<td>Rwanda</td>
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<tr>
<td>Burundi</td>
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</tr>
</tbody>
</table>

D – Under Development, R – Under Revision, Y – Available
Key policy interventions

• Development of energy efficiency policies and regulations
• Development and enforcement of MEPS and labels
• Training and capacity building
• Awareness on energy efficiency
• Public procurement guidelines on energy efficiency
• Coordination among the key sector players: ministries, regulators, standards bodies, customs bodies, etc.
Panel discussion

• Mr. James Wakaba, Director of the East Africa Programme CLASP

• Mr. Usamah Kaggwa, Senior Energy Officer Ministry of Energy and Mineral Development, Uganda

• Mr. Mafayo Ziba, Assistant Director – Technical, Department of Energy in Ministry of Energy Zambia

• Ms. Cynthia Alexander, Principal Officer Ministry of Environment, Energy and Climate Change, Seychelles
Energy Efficiency for Productive Use Appliances and Equipment

Evita Moawad, Project Administrator – UNIDO, EELA Project
What is productive use of energy?

Definition
- Broad - Utilization of electric and non-electric (heat or mechanical) energy for activities that enhance *income and welfare, including education and health* (1).
- Narrow - Activities that involve the application of energy to create goods and/or services either directly or indirectly for the *production of income or value* (2).

Sectors and Value Chains

- Coffee / Dairy
- Irrigation / Cold storage / Drying / Secondary processing
- Textile / Construction
- Yarn production / Cut and sew / Raw material processing
- Restaurant / Carpentry / Healthcare
- E-cooking / Cold storage

Electricity access

Stand-alone appliances & equipment  Mini-grid  On-grid

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Energy efficiency in productive use appliances and equipment

Opportunities

Energy efficiency in income generating activities = ↑ productivity and ↑ competitiveness

Energy efficiency contributes to decoupling economic growth and environmental impact by reducing energy intensity (1).

Challenges

<table>
<thead>
<tr>
<th>Stand-alone appliances &amp; equipment</th>
<th>Mini-grid</th>
<th>On-grid</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Locally available machinery is inefficient and of poor quality</td>
<td>• SMEs rely on outdated technology</td>
<td></td>
</tr>
<tr>
<td>• Most SHS companies do not currently provide productive use products</td>
<td>• Lack of information on energy saving equipment (and practices)</td>
<td></td>
</tr>
<tr>
<td>• No energy efficiency policy for productive use appliances and equipment (2)</td>
<td>• Low access to finance for upfront investments (3)</td>
<td></td>
</tr>
</tbody>
</table>

Panel discussion

- Makena Ireri, Manager, CLASP and Efficiency for Access
- Jacob Etunganan, Senior Advisor, Energy and Agriculture, CRAFT, SNV
- Olga Namatovu, Technical Advisor Energy Programme, GIZ
- Sabera Khan, Director, Lloyds Financials Limited in Zambia
EELA Online Training

Asteria Markus, Project Assistant, EELA Project
Borbala Csete, Project Assistant, EELA Project
Objective and target audience of the training

Strengthening the knowledge of key stakeholders on how to develop an enabling market for Energy Efficient Lighting and Appliances in East and Southern Africa.

- Policy makers
- Members of technical committees
- Lab technicians
- National standardisation bodies
- Energy Service Companies (ESCOs)
- Manufacturers
- Customs bodies
- Market surveillance actors
- Public and private procurers
- Importers
- Retailers
- Consumer organisations
Overview of EELA online training

Module 1
General Introduction
Block 1: Introduction to energy efficient appliances
Block 2: Policy and Regulations
Block 3: Market Surveillance
Block 4: Market Systems Development Introduction
Block 5: Webinars and Assignments for Core Group

Module 2
Lighting

Module 3
Clean Cooling

Module 4
Productive Use

Module 5
Market Development

Mandatory  Based on specialisation/interest
Module 1 & 2

Module 1 Introduction
Block 1 - Introduction to EE Appliances
Block 2 - Policy and Regulations
Block 3 - Market Surveillance
Block 4 - Market Systems Development Introduction

Module 2 Lighting
Block 0 - Introduction to Module 2
Block 1 - Light and Health
Block 2 - Technology, LED Lighting Systems
Block 3 - Control systems
Block 4 - Photometry
Block 5 - Product Life Length
Block 6 - Load Shedding
Block 7 - Equipment Training
Block 8 - Lab Building
Block 9 - Lab Related Activities
Block 10 - Equipment Procurement

STAY TUNED!!
EELA Technical Assistance and Co-Financing Facility

Fungai Alphonce Matura – Private Sector Specialist - EELA Project
The Energy Efficient Lighting and Appliances (EELA) project seeks to stimulate vibrant markets for energy efficient appliances and equipment in EAC and SADC Member States.

Focus on private sector led energy service business models

- Leasing Models
- Energy Procurement Contracting
- Lighting/Cooling/Heating as a Service
Why anchoring on private sector

- Opportunity to leverage private sector technical skills and finance
- Free up resources of central/local governments and state utilities for other priority areas
- Take advantage of advances in business models
- More sustainable in the medium to long term than government or donor funded handouts of EE appliances
- Help overcome challenges related to accessing EE appliances including
  - High upfront cost of appliances
  - Lack of affordable funding for EE projects
  - Limited technical skills for designing, implementing, operating and maintaining EE appliance projects

Private sector led initiatives key to ensuring sustainable access to energy efficient appliances and services
Rationale for promoting energy service business models

- Different models promoted by ESCOs offering EPC, Lighting as a Service, EE equipment leasing, Cooling as a Service services in place

- Through these models, energy service providers can design and implement energy efficiency appliance projects and mobilize financing

- Help address barriers to accessing energy efficient appliances and services including

  - High upfront costs of EE appliances
  - Limited access to affordable funding for upgrading appliances
  - High risk perception among end users and lenders
  - Lack of project design and implementation skills/expertise
  - Split incentives
  - Lack of operating and maintenance skills

- Models highly flexible and can be adapted to fit client needs
EELA technical assistance and co-financing facility

EELA Technical Assistance and Co-financing Facility will assist both the energy service providers and their potential clients.

The scheme has three windows:

➢ First Window: Technical Assistance for the design of Energy Service business Models
  ➢ The Facility will identify, and support municipalities, industries and other large energy users that would be interested in collaborating with energy service providers in addressing energy efficiency barriers through appropriate energy service business models.
  ➢ The EELA project will support the design of the right energy efficiency service business models and in engaging relevant energy service providers.

A standing Call for EoI has been published on the UNIDO, EACREEE and SACREEE websites and applications will be screened and processed on an on-going basis
EELA technical assistance and co-financing facility (Cont...)

→ **Second Window: Co-financing Window**

→ The Window will partially cover the upfront costs of EE equipment

→ Energy services providers who would have entered an energy service provision arrangement with a client are eligible to apply for support from this financial support window.

→ The financial support will target reducing the upfront cost of investing in energy efficient equipment. The EELA project will provide partial grant funding to successful applicants who would be required to provide co-financing.

→ The initially targeted projects include those focusing on lighting, cooling, and appliances for the productive sector.

→ **Third Window: Technology transition support for manufacturers**

→ This will target manufacturers of energy efficient appliances in a SADC or EAC member state requiring upgrading of their production to meet the newly adopted regional MEPS for lighting and cooling appliances are eligible to apply for this technical assistance support.
## Summary table

<table>
<thead>
<tr>
<th></th>
<th>Window 1</th>
<th>Window 2</th>
<th>Window 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applicants</td>
<td>Energy users</td>
<td>Energy service providers</td>
<td>Manufacturers</td>
</tr>
<tr>
<td>Support offered</td>
<td>Technical assistance to design an Energy Efficiency project applying an energy service business model</td>
<td>Non-repayable grant to cover upfront costs for equipment Max. 200,000 EUR</td>
<td>Non-repayable grant to support technology upgrade Max. 100,000 EUR</td>
</tr>
<tr>
<td>Required own</td>
<td>Demonsrated commitment to implement the project</td>
<td>Signed contract with a client.</td>
<td>Demonstrated need for upgrade of manufacturing</td>
</tr>
<tr>
<td>contribution</td>
<td></td>
<td>At least 25% demonstrated co-financing</td>
<td>At least 25% demonstrated co-financing</td>
</tr>
</tbody>
</table>

**Switch it on!**
Target business models

- Energy providers assisted to deploy business models that will enable increased access to energy efficient lighting, appliances and services including the following models:
  - Energy efficient appliance/equipment leasing
  - Energy Performance Contracts/Energy Service Contracts
  - Lighting as a Service
  - Cooling as a Service
  - Tailor made energy efficient lighting and appliance business models

- Energy service providers capacitated to develop track record, visibility and credibility

- Energy users assisted to overcome barriers towards accessing energy efficient lighting, appliances and services through TA support

- Opportunity to partner with experienced, local, regional and international energy service providers

- At least five projects to be supported in the first year of the project
Available funding and required co-financing

- The maximum amount available under the Co-financing and the Technology Transition support Windows is 200,000 euros and 100,000 euros per project respectively.

- The provided EELA funding shall not exceed 75% of the total project costs.

- The level of the applicants’ own contribution is a factor that will be used in evaluating projects.

- In-kind contribution cannot be used in determining project promoters’ contribution.

- Applicants cannot access funding from the same Window more than once.

- The following activities and products can be funded under the project:
  - Procurement of energy efficient lighting and appliances to be used in implementing energy efficiency projects.
  - Procurement of other hardware and software relevant for the implementation of the project.

- EELA funding cannot be applied towards working capital finance.

- Under the Co-financing and Technology Transition Window EELA funding cannot be applied towards project preparation costs.
THANK YOU

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