
Energy Efficiency in the Flower Sector, Kenya

Framework for Energy Efficiency Activities in Kenya

Presenter: Jude Songok

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Presentation Outline

- ✓ Introduction
- ✓ Institutional Framework
- ✓ Legal & Regulatory Framework

INTRODUCTION

Introduction: Consultant

Short Bio



- BSc Mechanical Engineering, MSc. Energy Management, Doctoral studies candidate
- Licenced energy auditor offering consultancy in auditing
- Formerly energy officer reviewing energy efficiency work in the manufacturing sector
- Technical committee member Kenya Bureau of Standards in energy management and solar energy
- Technical committee member energy management awards 5 yrs.
- Contribution to national energy efficiency strategy/regulation

Introduction: Why efficiency?

1. High energy prices

2. Mismatch between the supply and demand of some energy sources

3. Adverse environmental and health impacts

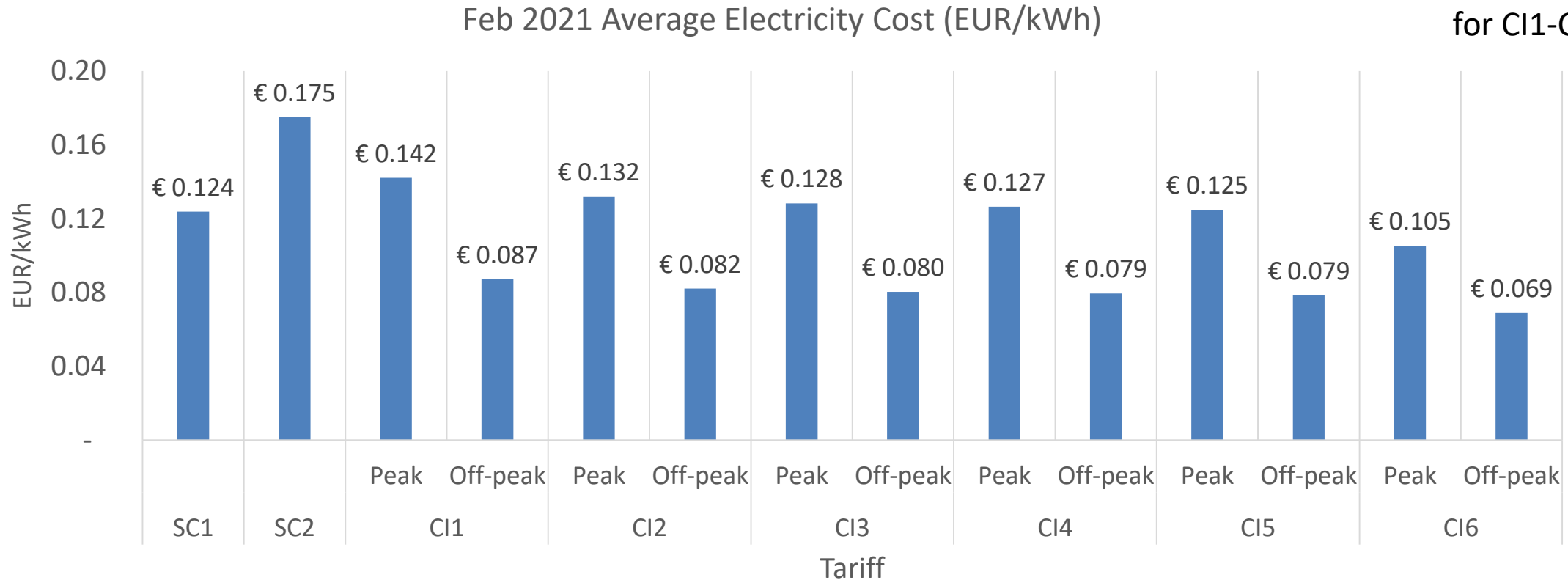
4. High level of awareness of energy efficiency and conservation

5. Decrease in cost of energy-efficient technology

6. Legal and policy interventions

Introduction: EE Motivation from Tariff Charges

Charges Excludes demand charge for CI1-CI6



Connection voltage per tariff; 240V, 415 V, 11 kV, 33 kV, 66 kV, 132 kV, 220 kV

February 21

Source: (<https://stimatracker.com/historic>)

Introduction: Country Targets

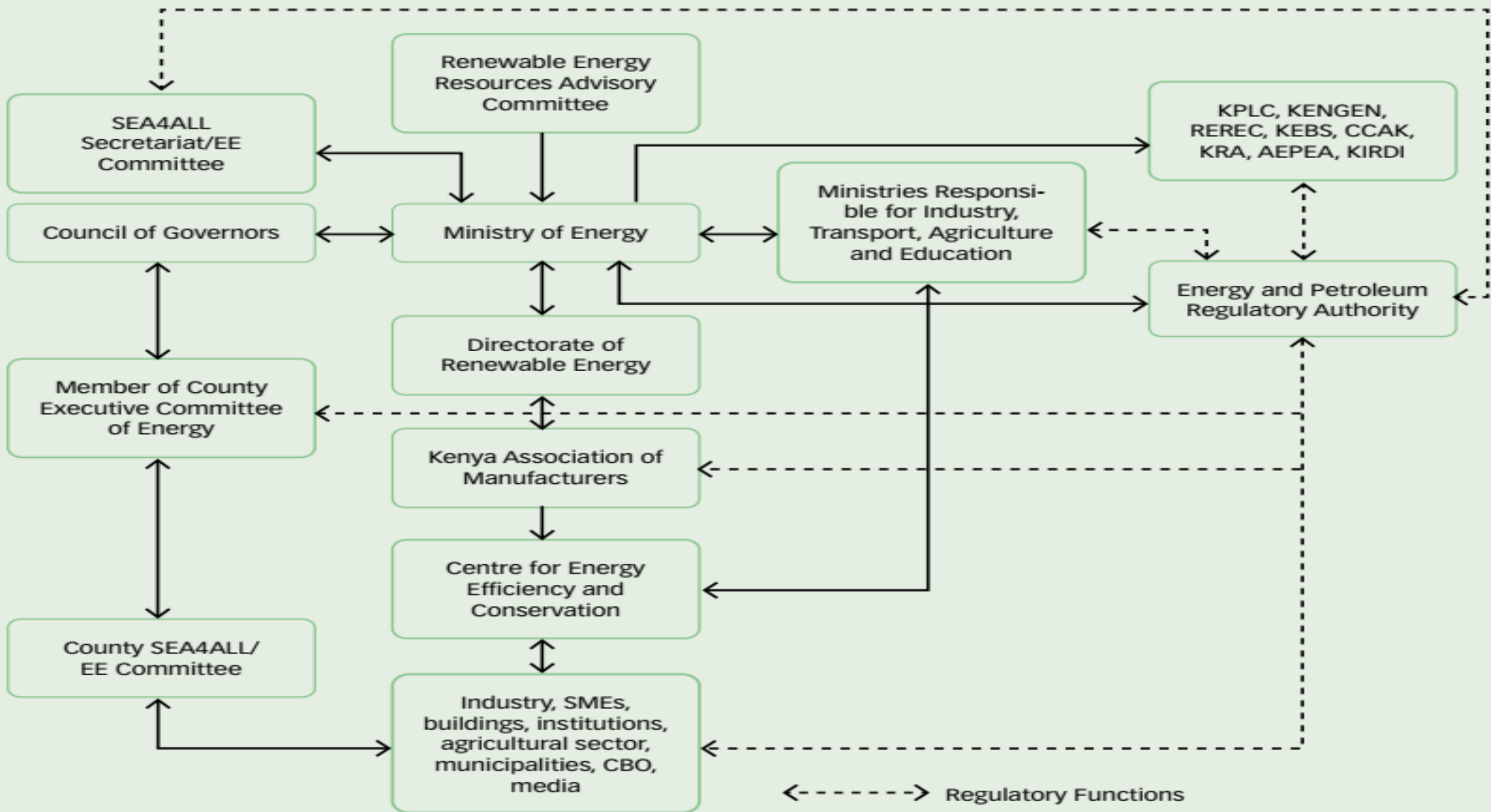
- ✓ The energy efficiency strategy is to guide the country towards achieving its established Energy Efficiency (EE) goals, which include:
 1. Reducing the national energy intensity by **2.8% per year**; and
 2. Enabling the country achieve a **30 per cent emission reduction by 2030** relative to Business as Usual (143 MtCO₂e) and meet its national targets for Sustainable Development Goal 7 by 2030.

Introduction: Country Targets Cont'd

Energy Efficiency Targets in the Industrial Sector 2020-2025.

Objectives	Indicators	Status (2019)	Target by 2025
Increase the reach of successful industrial energy efficiency programmes	Number of audited facilities	1,800	4,000
Improve the acceptance of energy audits and implementation of energy audit recommendations	Number of certified energy efficiency professionals	70 licensed EE professionals	120 licensed EE professionals
Enhance the implementation of recommended EE measures	Estimated industrial energy savings	Current estimated annual savings level from programmes: 177,000 MWh/20MW demand/51m litres heavy fuel oil/1.8m litres industrial fuel oil ^a	885,000 MWh/100MW demand/250m litres heavy fuel oil/9.0m litres industrial fuel oil ^b
	No. of ESCOs created and undertaking EE projects	0	5

INSTITUTIONAL FRAMEWORK



Source: (NEECS, 2020)

LEGAL & REGULATORY FRAMEWORK

Legal & Regulatory Framework

1. Energy Act 2019
2. National Energy Efficiency & Conservation Strategy (NEECS)
3. Energy Management Regulation (EMR) 2012
4. Appliances' Energy Performance and Labelling 2016

Energy Act 2019

Energy Act 2019

- ✓ Energy Act 2019 was assented to law in 12th March, 2019 and came to effect on 28th March, 2019.
- ✓ Replaces the Energy Act 2006 which aimed to among others align with the Constitution 2010.
- ✓ Some institutions created include **EPRA, NuPEA**
- ✓ Nuclear Power and Energy Agency (NuPEA) create awareness and disseminate information on the efficient use of energy and its conservation
- ✓ EPRA to make regulations necessary for the administration and implementation of the **feed-in-tariff system**

Energy Act 2019 Cont'd

- ✓ PART VIII— ENERGY EFFICIENCY AND CONSERVATION
- ✓ 187. The Authority shall coordinate the development and implementation of a prudent **national energy efficiency and conservation programme**.
- ✓ 191. (1) The Authority may issue the **energy savings certificate** to the designated consumer whose energy consumption is less than the prescribed norms and standards in accordance with the procedure as may be prescribed.
- ✓ (f) implement **energy labeling programs for appliances and devices** and establish benchmarks;

Energy Act 2019 Cont'd

- ✓ (g) **specify and enforce standards, norms, codes, measurement and verification protocols and building codes**, for the efficient use of energy and for reduction of wastage of energy in buildings;
- ✓ (II) **co-ordinate the development and implementation of a national energy efficiency and conservation action plan**, in consultation with relevant statutory authorities and other stakeholders;

National Energy Efficiency and Conservation Strategy

NEECS

- ✓ Scope of strategy;
 - ✓ **Households, Buildings, Industry and Agriculture, Transport and Power Utilities.**
- ✓ Kenya has championed energy efficiency since the early 2000s in both the public and private sectors.
- ✓ One of the main projects was the Global Environmental Facility – Kenya Association of Manufacturers (GEF-KAM) project titled '**Removal of Barriers to Energy Conservation and Energy Efficiency in Small and Medium Scale Enterprises (SMEs)**'.

NEECS Cont'd

- ✓ EPRA reports that between 2012 and 2019, **1,800** out of the **4,000** designated facilities undertook energy audits.
- ✓ It is important to **improve access to finance**, based on reduced energy expenses. There is need for a financing pipeline to support energy efficiency projects.
- ✓ This would lead to a vibrant **ESCO model** for accelerated EE implementation in Kenya.

Energy Management Regulation (EMR)

EMR Cont'd

- ✓ There are two regulatory tools used by EPRA to enforce energy efficiency.
 1. The Energy (Energy Management) Regulations 2012, (EMR)
 2. The Energy (Appliances' Energy Performance and Labelling) Regulations 2016.
- ✓ Besides the regulations, there are Energy Management standards
- ✓ The Kenya Bureau of Standards develops standards to cover energy management systems, energy auditing and energy efficiency performance measurement & verifications.

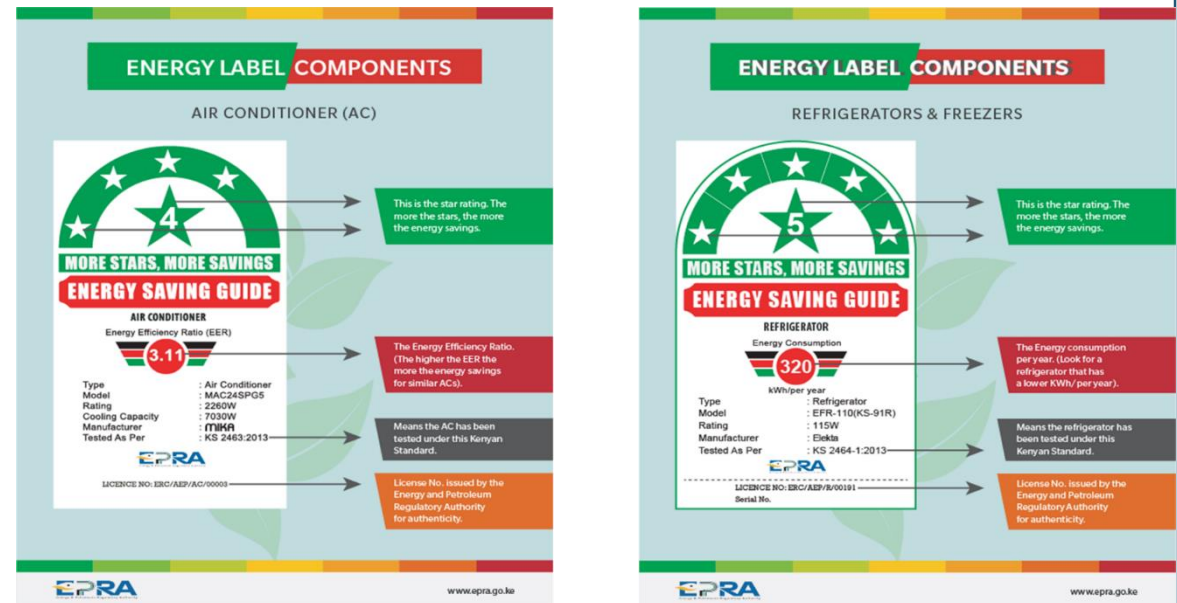
EMR Cont'd

- ✓ EPRA enacted the Energy (Energy Management) Regulations in 2012 to **institutionalize energy audits and energy efficiency** in designated facilities.
- ✓ The Energy Management Regulations 2012 stipulated that **industrial or commercial** consumers using more than **180 MWh** equivalent of energy per year must make a commitment to introduce an **energy conservation policy** and **conduct energy audits** at least once every three years.

Appliances' Energy Performance and Labelling

✓ Kenyan Standards and Labelling program covers:

1. Three-Phase Case Induction Motors
2. Self-Ballasted Lamps
3. Refrigerating Appliances
4. Non-Ducted Air Conditioners
5. Double Capped Fluorescent Lamps
6. Ballasts for Fluorescent Lamps



Thank you for your time!
Q&A

Jude Songok

Email: jsongok@easkenya.com