

# INVESTMENT OPPORTUNITIES FOR ENERGY EFFICIENCY IN EAC, ECOWAS AND SADC

September 11, 2025

[Eng. Nickson Bukachi, PE, Msc., CEM®, CMVP®, CREP®, PMP®](#)

Senior Policy Officer RE&EE  
African Energy Commission



# OUTLINE

1.0 BACKGROUND AND INTRODUCTION

2.0 ENERGY SAVING POTENTIAL IN AFRICA

3.0 ENERGY EFFICIENCY SECTORS

4.0 INAUGURAL ALLIANCE ACTIVITY

## Need for Energy Efficiency in Africa

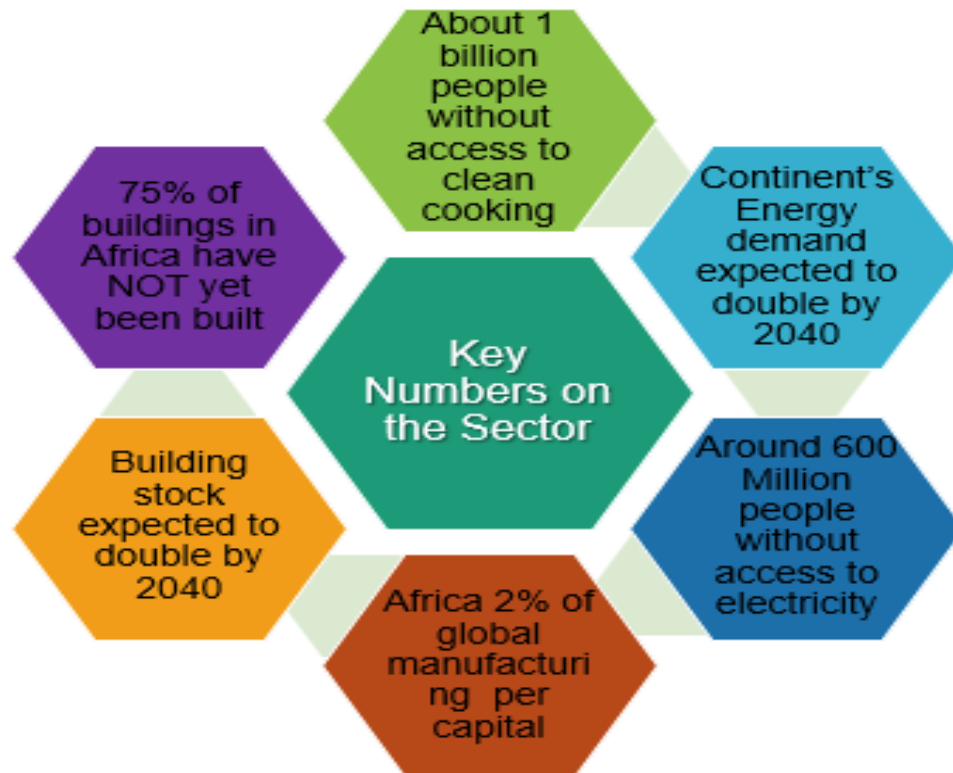
- ❑ Access to modern energy services is a prerequisite to shared objectives under SDGs, Agenda 2063 and individual member states development blueprints: human development, economic growth & environmental sustainability.
- ❑ Transformation in the African Energy Landscape would include:
  - **Universal Energy Access:** Committing to significantly expand access to about 600 million people without access to electricity and about 1 billion without access to clean cooking services across the continent. This is recognizing that this as a precondition for achieving the Sustainable Development Goals 7 (SDGs) and other SDGs such as ending hunger, quality health services and education, food security, gender, water supply, economic development etc.
  - **Energy Sustainability:** Ensuring that Africa's energy transition is aligned with the Paris Agreement's objectives, contributing to global efforts to mitigate climate change while addressing the continent's specific adaptation needs.
  - **Energy Security:** Availability, accessibility, acceptability, and affordability. Emphasizing the deployment of all of Africa's energy resources, including renewable and non-renewable options like natural gas, green and low carbon hydrogen, and nuclear energy, to meet the growing energy demand responsibly.

**Energy Efficiency stands out as a low hanging fruit in balancing the three imperatives of the “energy triangle” – equity, security and sustainability.**

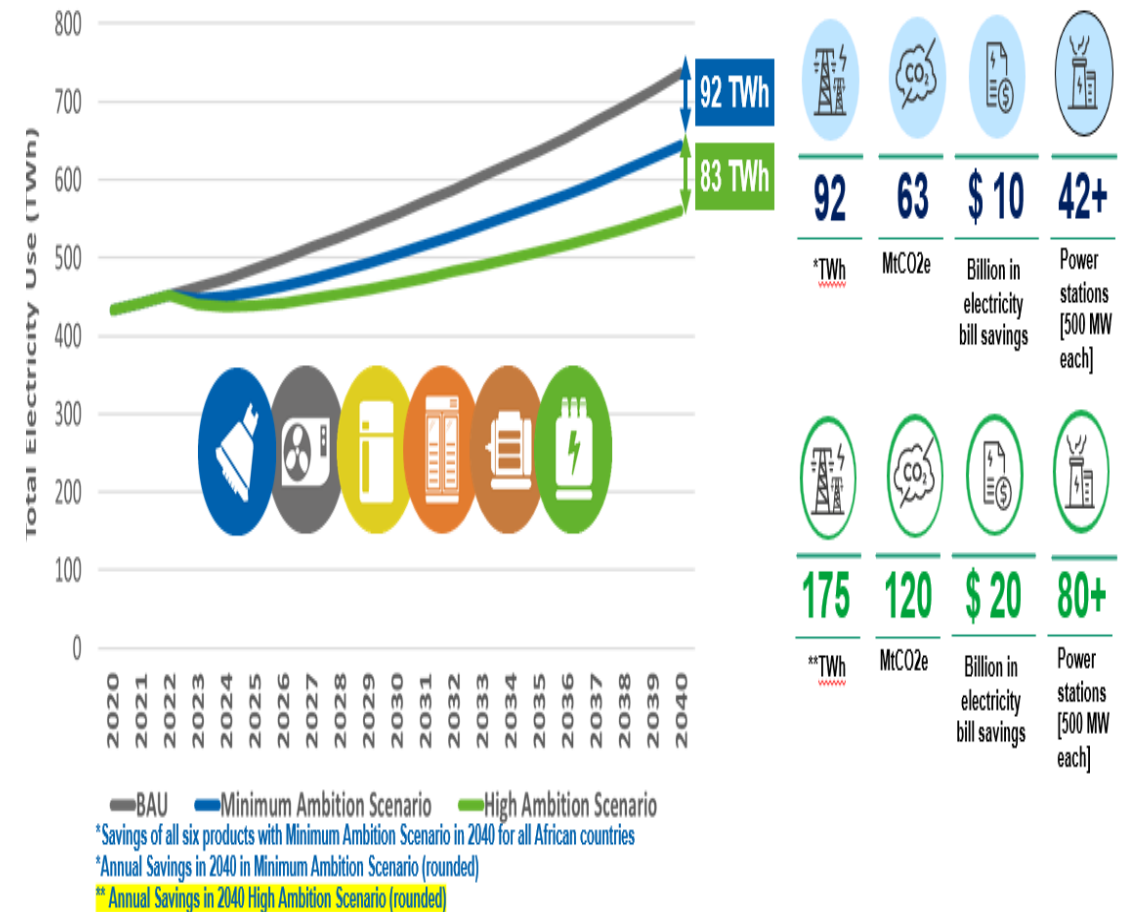
# BACKGROUND AND INTRODUCTION

## Role of Energy Efficiency Africa's Energy Landscape

- Potential to contribute to Sustainable energy system: **energy security, energy equity (affordability and accessibility), and environmental sustainability.**
- Efficiency in buildings for Africa is more than **energy savings** to include transition to cleaner fuels for cooking.

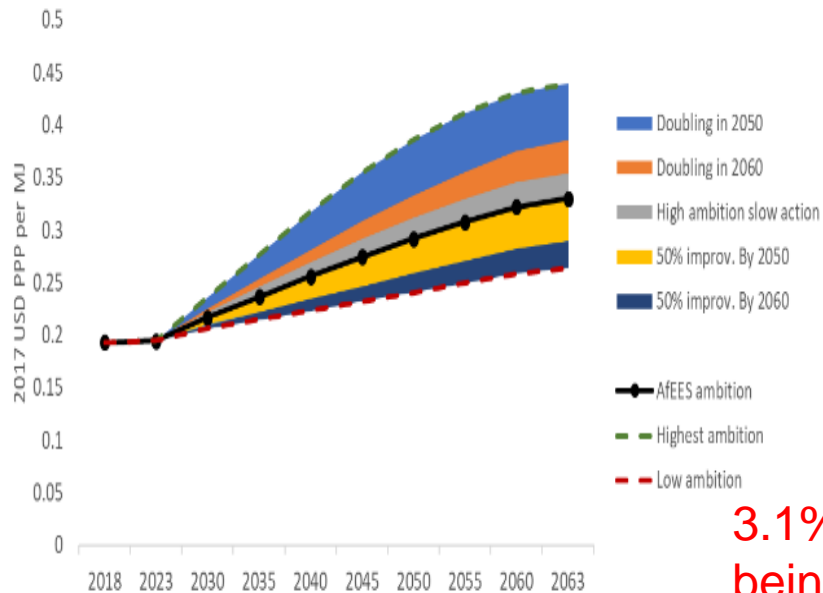
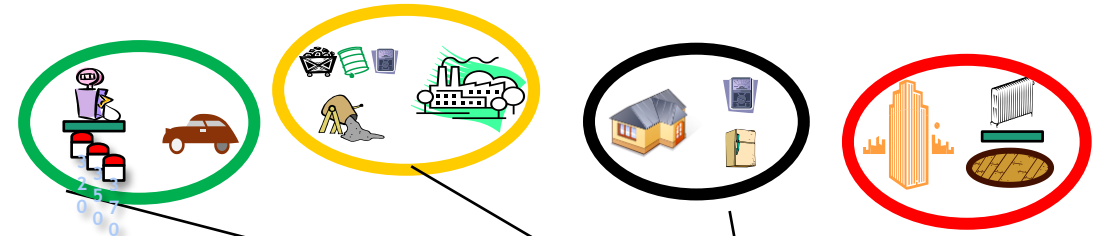


## Continental Appliance and Market Transformation Potential

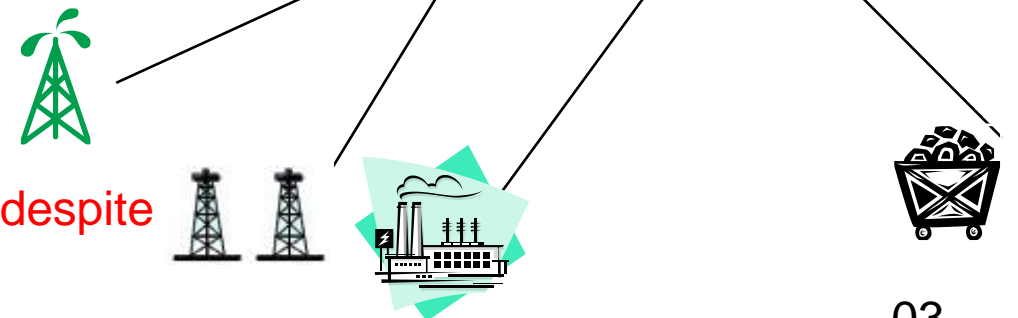


The African Energy Efficiency Programme through the African Energy Efficiency Strategy and Action Plan (AfEES) has set a target to enhance energy productivity.

- Targets all sectors of the economy with the target of **50% increase** in energy productivity by **2050** and **70% by 2063**. The amount of economic output that is derived from each unit of primary energy consumed.

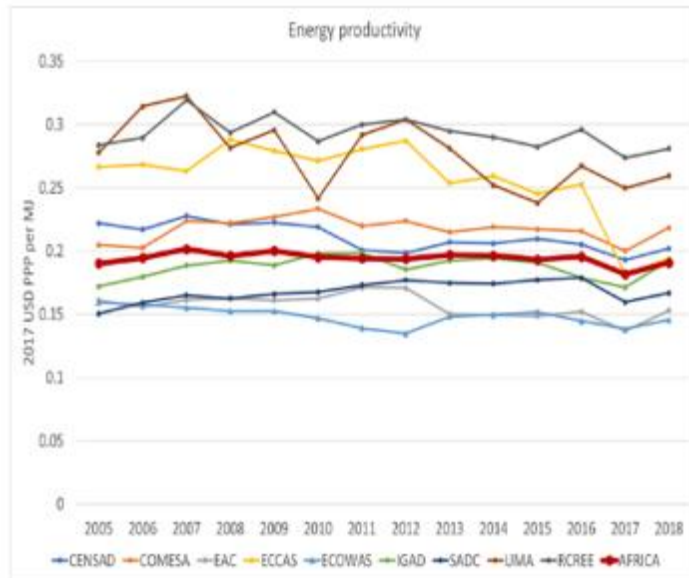


3.1% of global electricity demand despite being home to 19% of the world's population

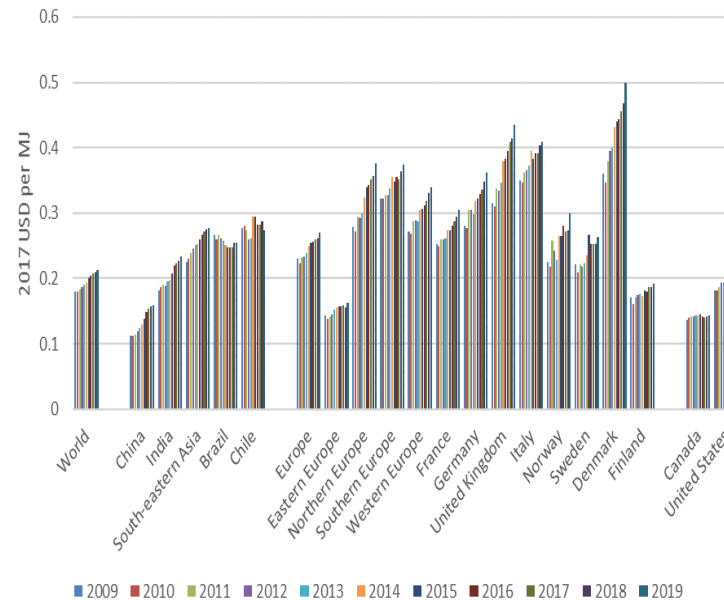


## Significant investment opportunities to enhance Africa's energy productivity

- Potential exists to decouple the long-term economic growth from energy consumption, fostering energy-efficient and resilient economies and realizing universal access to modern, reliable and affordable energy in support of the Agenda 2063 goals



### Africa's Productivity



### Global Picture

**Doubling energy efficiency in Africa could create 2 million jobs up to 2030**

- Targets all sectors of the economy with the target of **50% increase** in energy productivity by **2050** and **70% by 2063**. The amount of economic output that is derived from each unit of primary energy consumed.

The current energy productivity is less than half the productivity in other developed economies



## Intervention Sectors under the Programme



### Industrial Sector

Achieve energy-efficient operation of industrial and commercial end users (including both manufacturing and industries without smokestacks)



### Building Sector (Domestic, Commercial and Institutional Facilities)

Enhance energy efficiency in the building sector by establishing and enforcing building codes, material efficiency, building star rating



### Transport Sector

Fuel switching, of more efficient vehicles, use of mass transport, maintenance of vehicles, use of e-vehicles and streamlining of public transport system management



### Electricity Sector

Improve the energy efficiency of the Electricity Supply Industry.



### Agricultural Sector

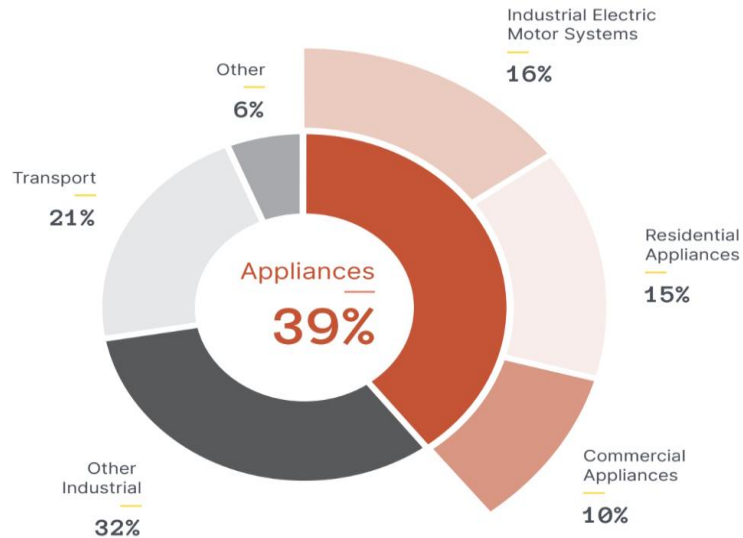
Adoption of modern farming methods e.g., precision irrigation, use of machinery and fuel efficiency, greenhouses, efficient cooling, capacity building and renewable energy integration .



### Appliances and Clean Cooking

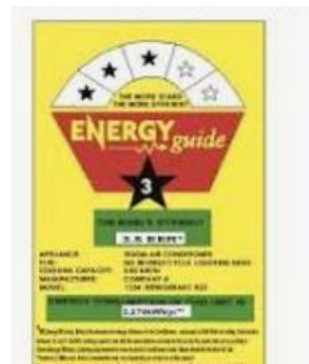
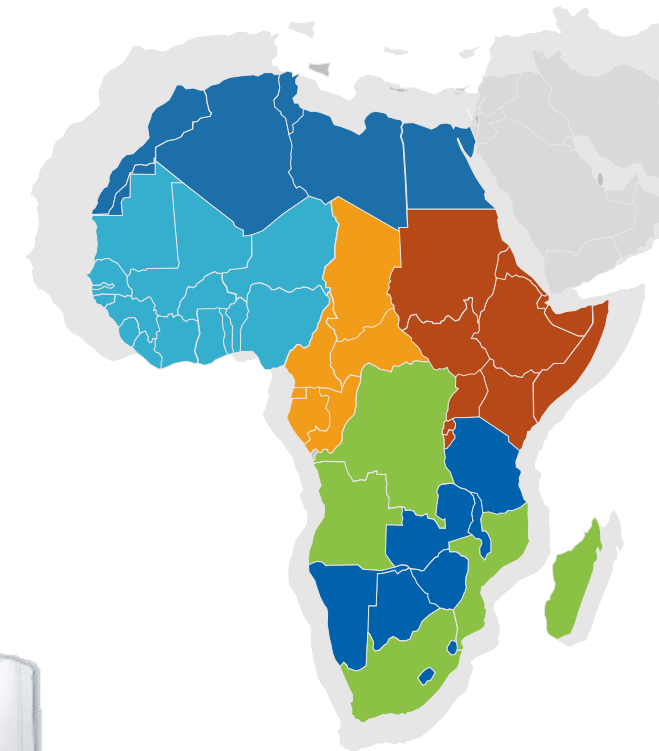
Implement minimum energy performance standards and energy labels targeting lighting, cooking, cooking appliances and equipment, and support incentives for adoption.

## Energy Efficiency in Appliances (A)



Appliances are responsible for **39.3%** of energy-related CO<sub>2</sub> emissions.

These emissions are equal to roughly the total CO<sub>2</sub> emissions from **China, Europe, and Brazil.**



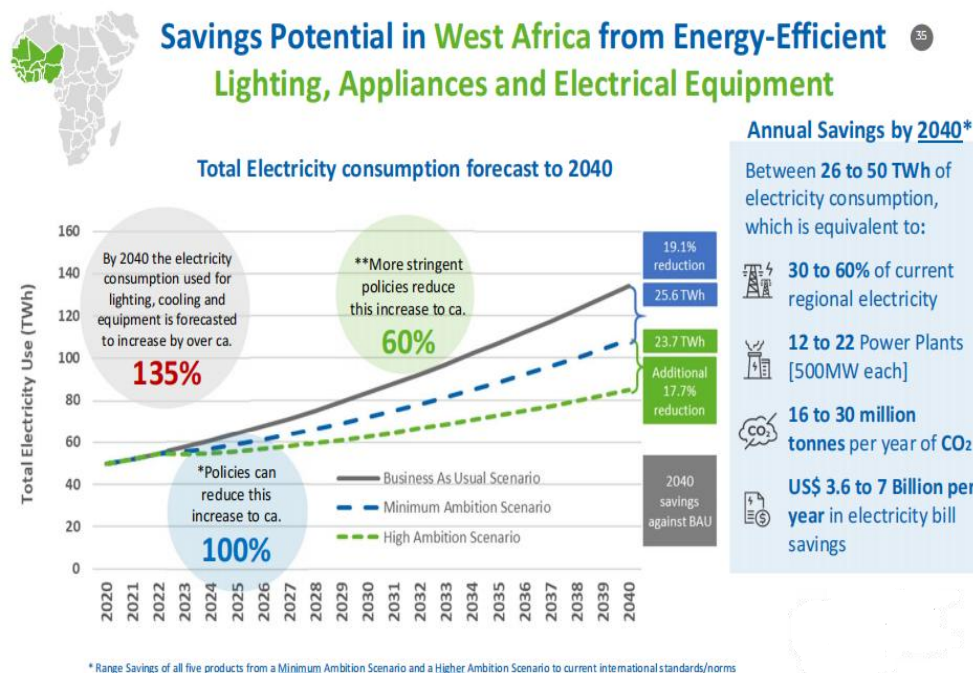
Publication available on: <https://au-afrec.org/>



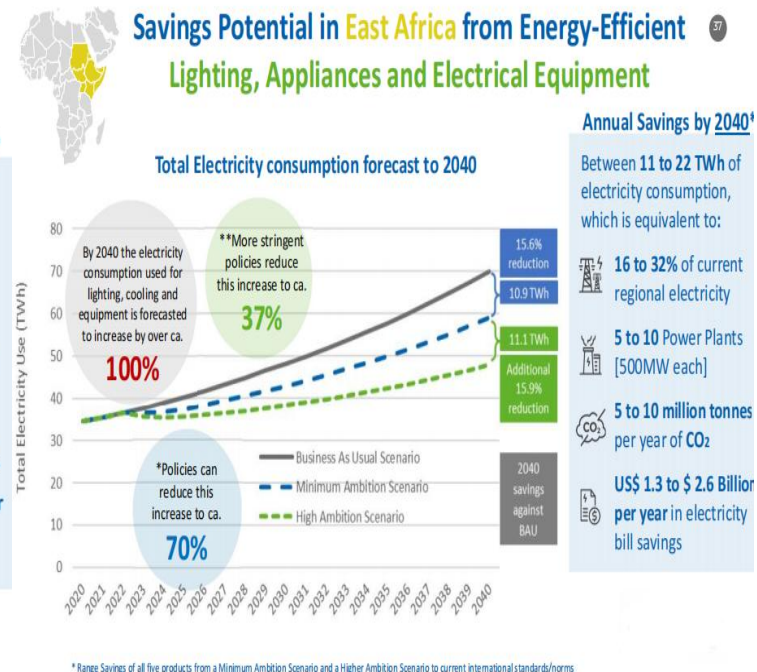
# HIGH EFFICIENT APPLIANCES AND EQUIPMENT

With the growing population and associated energy demand, the RECs have significant energy saving potential (

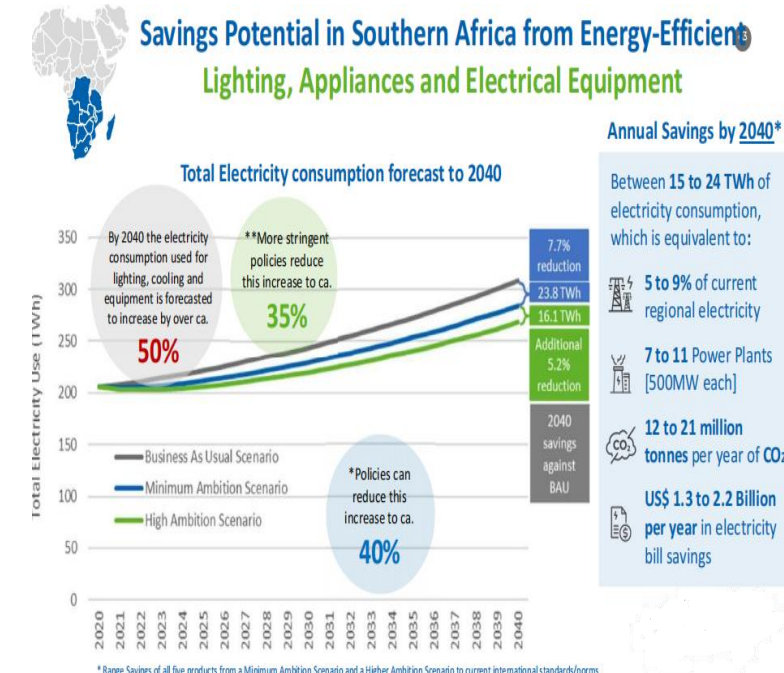
## Western Africa



## Eastern Africa



## Southern Africa



**Significant investment potential in the manufacturing of the highly efficient products and financing of the delivery models e.g. through on bill financing**

**Retrofit of motors in industries through ESCOs**

## Electricity Supply System

- ❑ Parts of Africa have the **lowest supply of electricity** than any other region in the world with **about 600 million** people without access and **almost half** of those with access reporting **unreliable supply**.
- ❑ The contrast is that **40% of the electricity utilities** report losses of more than 20% compared to 8-10% in the developed countries.



Tech	2023	Baseline	Full Regional	Full Continental
Solar	9.8	203	187	262
Wind	8.2	125	370	342
BESS	0.124	14	32	25
Hydro	40	86	114	120
Nat. gas	121	272	393	390
CSP	1.1	2.6	11	11
Biomass	0.8	2.6	2.6	2.6
Geothermal	0.9	3.6	4.9	5.1
Pumped storage	3.7	6.5	6.5	6.5
Diesel	13	6.7	10	10
HFO	8.5	7.4	3.7	4.6
Coal	52	39.4	32.1	31.9
Nuclear	1.8	6.7	6.7	6.7
Total	263	775	1 199	1 213

- Regional Integration and Distributed Generation
- Grid Infrastructure Upgrades
- Distribution Network Optimization
- Adoption of Smart Grid Technologies
- Loss Mapping and Energy Audits
- Regional Interconnection Projects
- Enforcement of legal/regulatory measures in place

**Significant investment additional capacity (Distributed generation), Public Private Partnerships for infrastructure upgrades, smart metering etc**

BUILDINGS	INDUSTRY
According to IFC investment opportunity in energy efficiency is more than USD 770 billion in the building sector alone.	Process Reengineering
Research, development and manufacture of energy efficient building materials	Energy Management Systems
Design and construction of energy efficient buildings	Appliances and equipment
Building Management Systems	Investment of energy conservation opportunities
Building appliances and equipment	Manufacturing of energy efficient appliances and equipment
Investment of energy conservation opportunities	

## Intervention Sectors under the Programme



### Industrial Sector

Achieve energy-efficient operation of industrial and commercial end users (including both manufacturing and industries without smokestacks)



### Building Sector (Domestic, Commercial and Institutional Facilities)

Enhance energy efficiency in the building sector by establishing and enforcing building codes, material efficiency, building star rating



### Transport Sector

Fuel switching, of more efficient vehicles, use of mass transport, maintenance of vehicles, use of e-vehicles and streamlining of public transport system management



### Electricity Sector

Improve the energy efficiency of the Electricity Supply Industry.



### Agricultural Sector

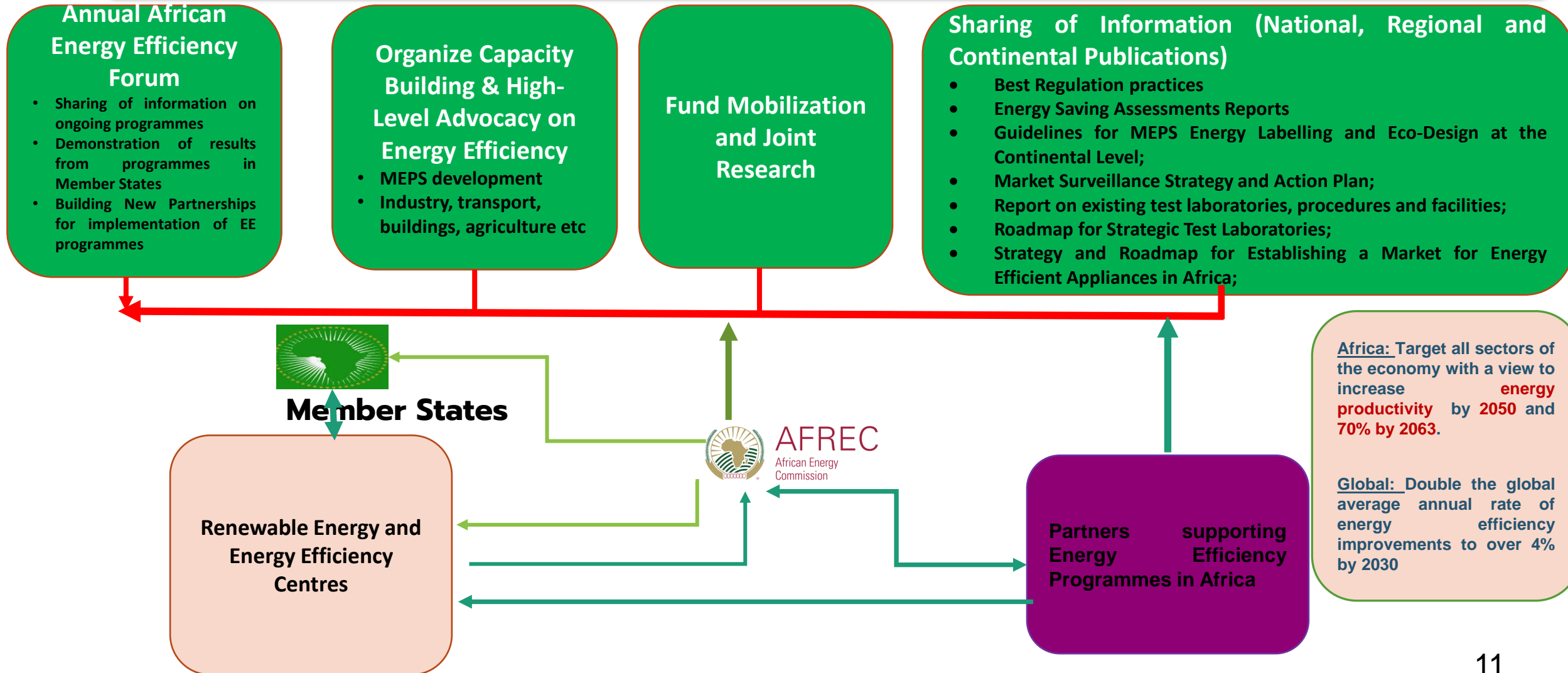
Adoption of modern farming methods e.g., precision irrigation, use of machinery and fuel efficiency, greenhouses, efficient cooling, capacity building and renewable energy integration .



### Appliances and Clean Cooking

Implement minimum energy performance standards and energy labels targeting lighting, cooking, cooking appliances and equipment, and support incentives for adoption.

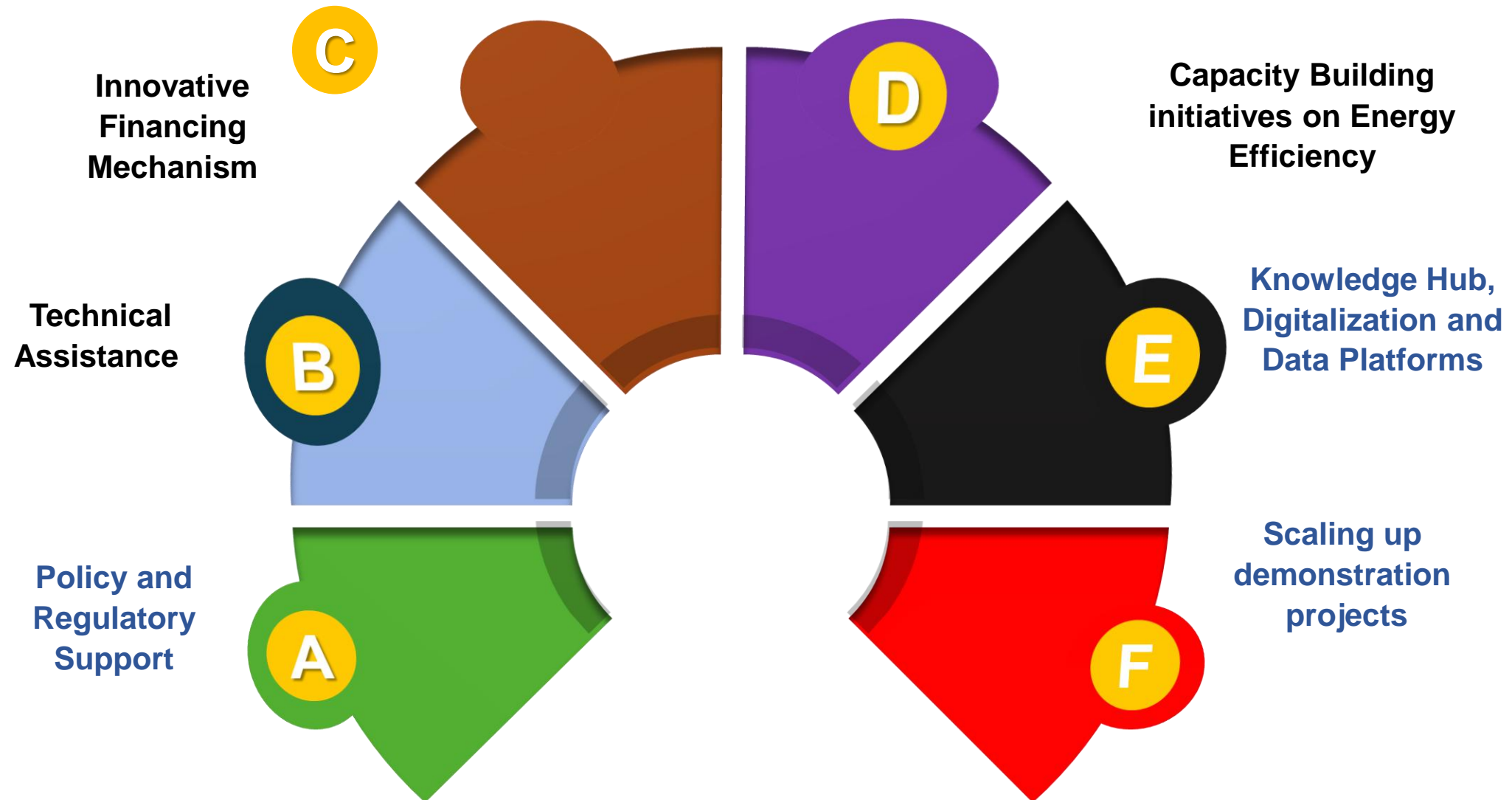
## OVERARCHING GOALS OF THE ALLIANCE





# AFRICAN ENERGY EFFICIENCY ALLIANCE

## The programme components of the ALLIANCE



# **INAUGURAL EVENT FOR THE ALLIANCE**

**December 10-11, 2025**

## Support in developing NEESAP and EPB

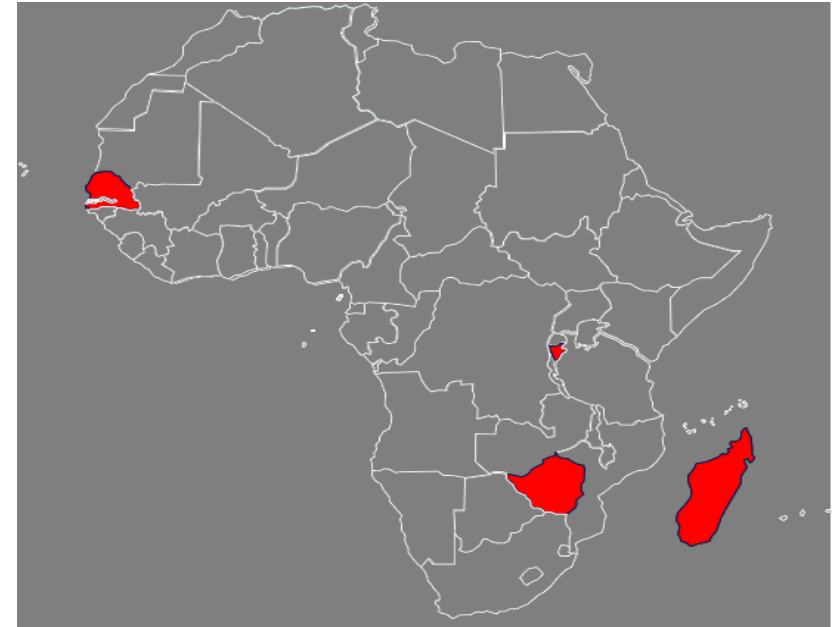
Southern Africa	
Interest	Zimbabwe, Zambia, Malawi, Kingdom of Eswatini, Namibia, Lesotho and Botswana
Phase I	Zimbabwe

Central Africa	
Interest	Burundi, Republic of Congo, Central African Republic, Cameroon and Chad
Phase I	Burundi

Western Africa	
Interest	Sierra Leone, Liberia, Guinea, Benin, Senegal and Shana
Phase I	Senegal

Northern Africa	
Interest	Mauritania, Morocco and Algeria

Eastern Africa	
Interest	Sudan, South Africa, Ethiopia, Rwanda, Ethiopia, Madagascar, Somalia, Tanzania, Seychelles and Comoros
Phase I	Madagascar





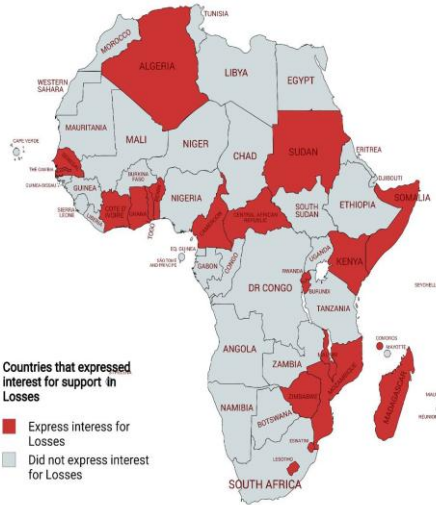
## Summary of Member States that have expressed interest in the programme

### Minimum Energy Performance Standards



1. Algeria
2. Cote d'Ivoire
3. Ghana
4. Cameroun
5. Comoros
6. Gambia
7. Central African Republic
8. Sudan
9. Somalia
10. Kenya
11. Malawi
12. Botswana
13. Lesotho
14. Togo
15. Mozambique

### Distribution Grid Losses



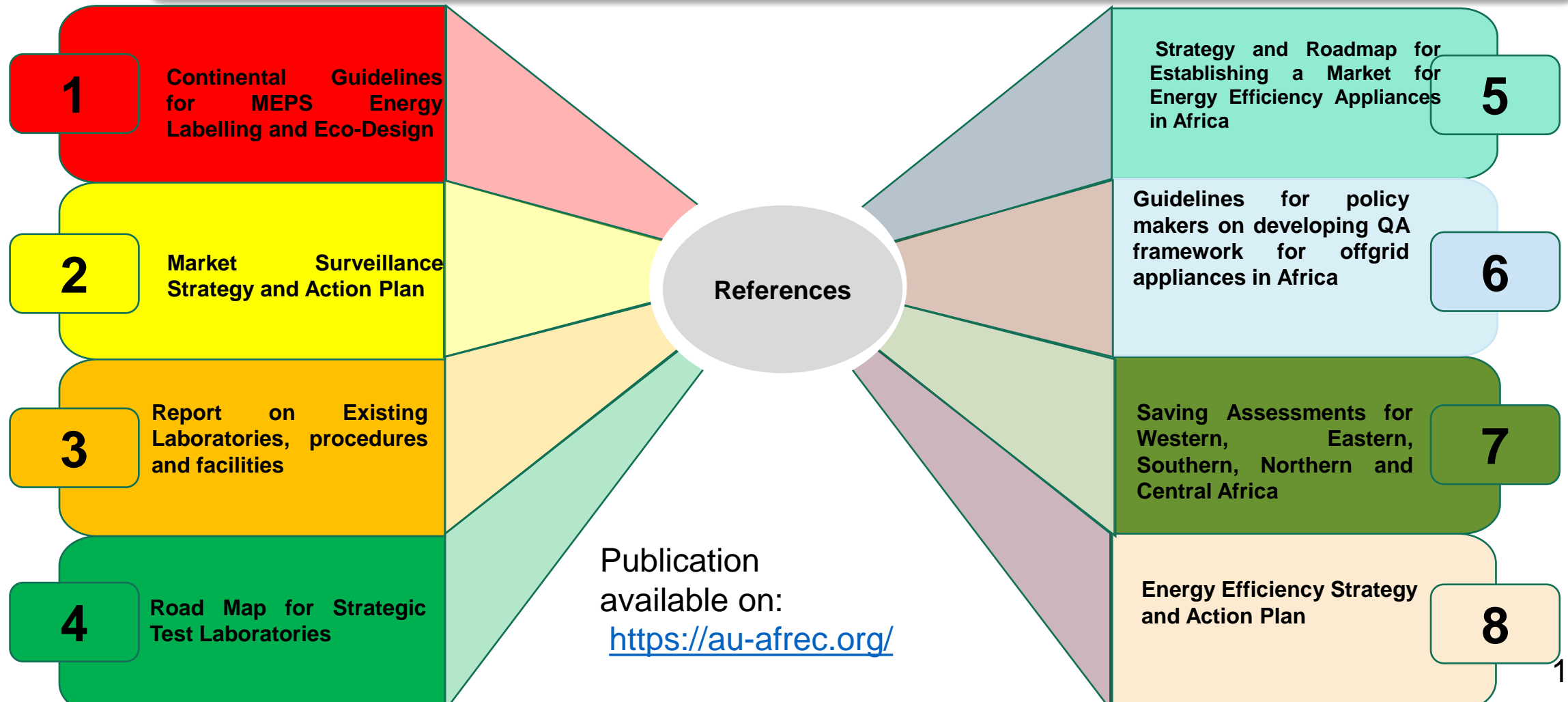
1. Algeria
2. Benin
3. Burundi
4. Cote d'Ivoire
5. Ghana
6. Cameroun
7. Comoros
8. Gambia
9. Central African Republic
10. Eswatini
11. Senegal
12. Sudan
13. Somalia
14. Kenya
15. Malawi
16. Lesotho
17. Togo
18. Madagascar
19. Mozambique
20. Zimbabwe
21. Rwanda

### Monitoring and Evaluation



1. Algeria
2. Burundi
3. Benin
4. Botswana
5. Cote d'Ivoire
6. Ghana
7. Comoros
8. Gambia
9. Central African Republic
10. Eswatini
11. Senegal
12. Sudan
13. Somalia
14. Kenya
15. Malawi
16. Lesotho
17. Togo
18. Madagascar
19. Mozambique
20. Morocco
21. Zimbabwe
22. Rwanda

## PUBLICATIONS







Thank you

Merci

شكرا

Obrigado

Asante

