

ECOWAS Energy Efficiency Policy



ECOWAS NEEAP Template

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NEEAPs

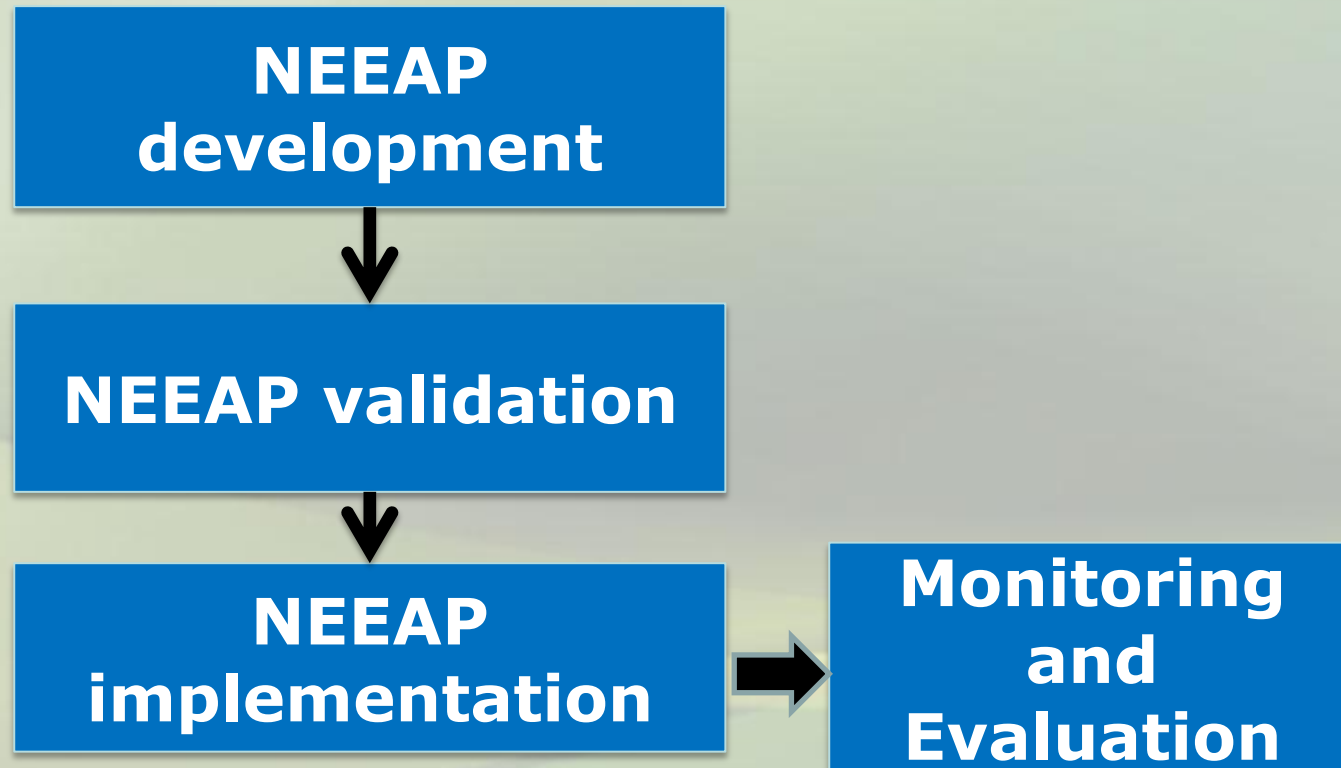
- National Energy Efficiency Action Plans (NEEAP)
- NEEAPs support the implementation of the ECOWAS Energy Efficiency Policy (EEEP)
 - Definition of key national EE targets
 - Description of measures to achieve EE targets

NEEAPs allow:

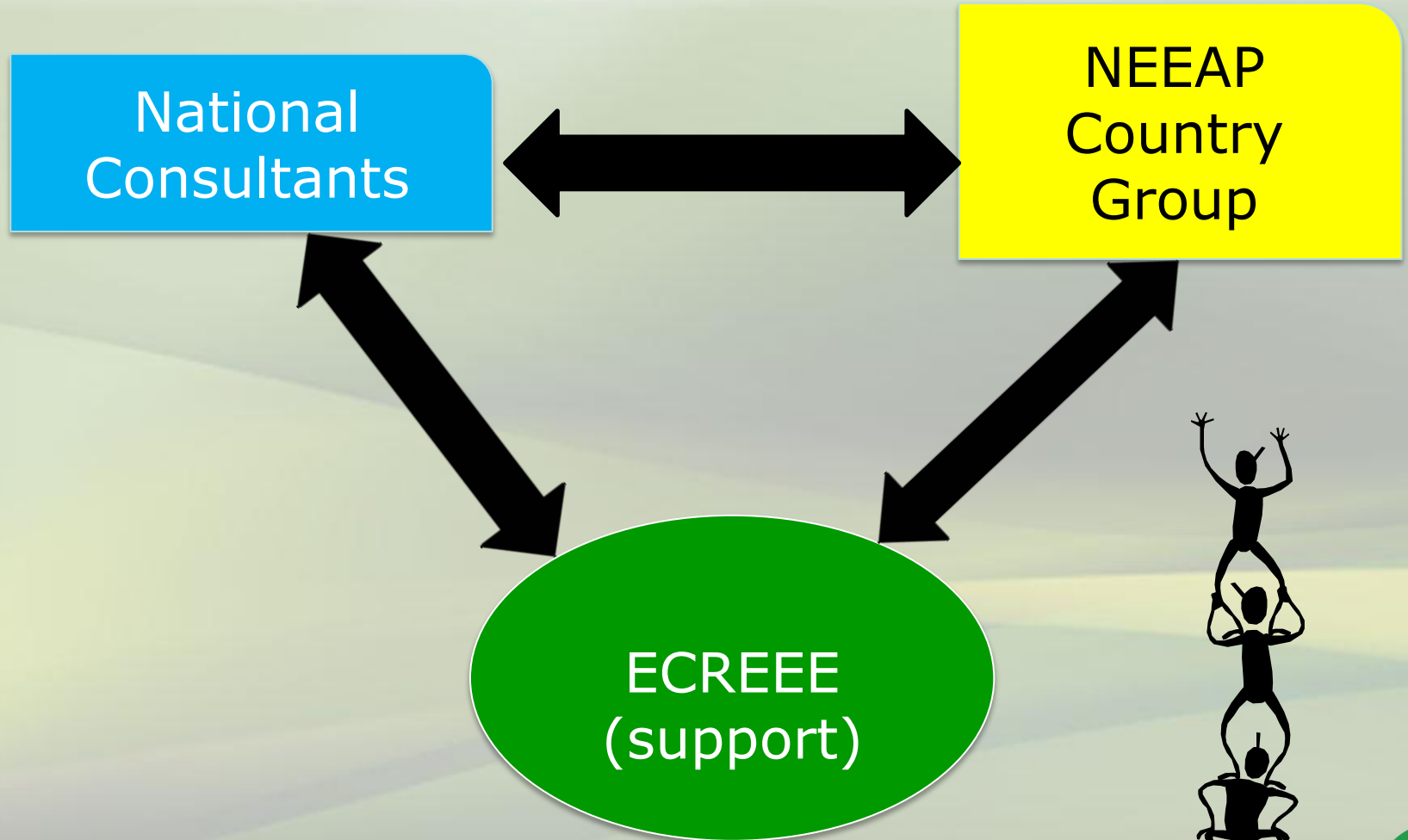
- Harmonisation of the EE planning process across ECOWAS Member States
- Identification and implementation of common approaches
- Comparison of measures across member states
- Achieving national consensus on priorities in energy efficiency
- Monitoring progress
- Communicating actions to stakeholders



NEEAP Process (every 5 years)



NEEAP development and validation: Main actors



6 ECOWAS energy efficiency initiatives

- Safe, affordable, sustainable and efficient Cooking (WACCA)
- Efficient lighting
- Standards and labelling
- High performance electricity distribution
- Energy efficiency in buildings
- Financing for sustainable energy



NEEAP Template: Main elements

- Status Quo of energy efficiency
- Targets and indicators
- Key energy efficiency measures
 - EE initiatives
 - Other sectors
- Preparation and follow up of NEEAPs

Current situation in energy efficiency

- General macro-economic EE indicators:
 - Final energy intensity (Final Energy Consumption/GDP)*
 - Final energy consumption/capita
 - Annual electricity consumption kWh/capita/year
 - Electricity consumption/GDP
 - Electrification rate (%)
 - Electricity consumption/household

* toe/000 USD of GDP at year 2000 purchasing power parity



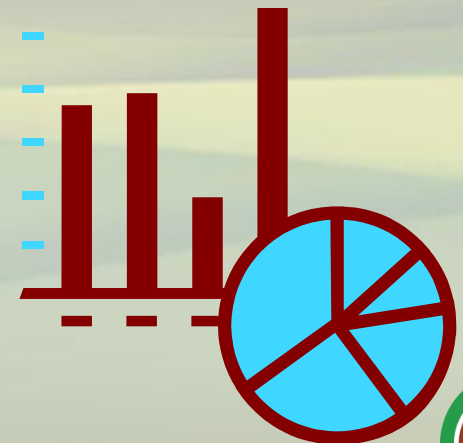
SE4ALL-Global Tracking Framework

- Rate of primary energy intensity improvement (1990-2010 und 2000-2010)
- Level of primary energy intensity (1990, 2010)
- Decomposition analysis
- Rate of final energy intensity improvement (1990-2010)
- Final to primary energy ratio (1990, 2010)
- Cumulative energy savings (1990-2010)



Current situation in energy consumption

- Final energy consumption
 - Total final energy consumption
 - Final energy consumption per sector and energy carrier
 - Final electricity consumption



Energy efficiency targets

- Efficient lighting
- High performance distribution
- Cooking
- Standards and labelling
- Buildings
- Other targets



Energy efficient lighting



- Percentage of on-grid EE household lights sold/year
- Percentage of off-grid EE household lighting systems sold/year
- Percentage of EE public street lights/year
- Number of EE lighting devices sold or distributed/year
- Estimate of electricity savings/year
- Estimate of kerosene savings/year (if applicable)

Time series until 2030

2010	Most recent year	2015	2016	2017	2020	2030



Standards and labelling

- Efficient households lights
 - The EEEP fixes the 2020 as the target for full implementation of standards for household lights
 - Regional lighting strategy: ECOWAS Countries adopt and implement ECOWAS Regional Legislation on mandatory labelling and certification for on-grid and off-grid efficient lighting products

Standards and labelling

- Refrigerators
- Air conditioning
- other devices



High efficiency distribution

- Total losses in the power system, (technical and non-technical losses), in both transmission and distribution
- Transmission losses
- Total distribution losses
 - technical losses
 - non-technical losses
- Electricity savings (in MW, GWh)



Buildings initiative: Focus on new buildings

- Percentage of large private buildings that implement EE building designs and methods, according to the national building code.
- Percentage of public buildings that implement EE building designs and methods.
- Percentage of small buildings that employ EE building designs and methods



Cooking initiative

- Improved cookstoves (% of stoves sold that are considered to be ICS)
- Efficient charcoal production (% share of total national production)
- Use of modern fuel alternatives (LPG, Biogas, solar cookers and others) (% of the total population)



Market development



- Develop the value chain around EE technologies in West Africa:
 - create jobs: Local workforce trained/educated to build, assemble, install, repair, maintain EE technology
 - attract private investments into the local EE value chain:
 - Create local EE companies
 - E.g. joint ventures between local companies and international operators

Market development targets



- Total investment in EE
- Total investment in EE - with participation of local commercial banks
- Volume of contracts for local manufactures/assembly industry's/local installers of total investments
- Number of registered companies in the EE field (number of companies)
- Number of commercial banks financing EE in the country

National institutions in charge of energy efficiency

- Please list the national institutions in charge of energy efficiency



Measures per initiative - Lighting

- Lighting
 - Minimum Energy Performance Standards
 - Supporting policies and measures
 - Monitoring, Verification and Enforcement
 - Environmentally sound management



Measures per initiative- Buildings

- Promotion of policies and tools on energy efficiency in buildings
- Capacity building on energy efficiency in buildings
- Awareness Raising
- Financial instruments for energy efficiency in buildings



Measures per initiative- Distribution

- Diagnostic studies to determine the level of losses
- Support for investment in high efficiency power system equipment
- Improved management practices in power systems, (e.g. maintenance and billing)
- Tariff measures to encourage power factor correction



Measures per initiative-Cooking

- Improved charcoal conversion, including training and demonstration for charcoal workers;
- Production and sale of improved cookstoves, including training for stove producers, quality control, market support mechanisms, etc.
- Support for alternative fuels, including RD&D, financial support, etc.



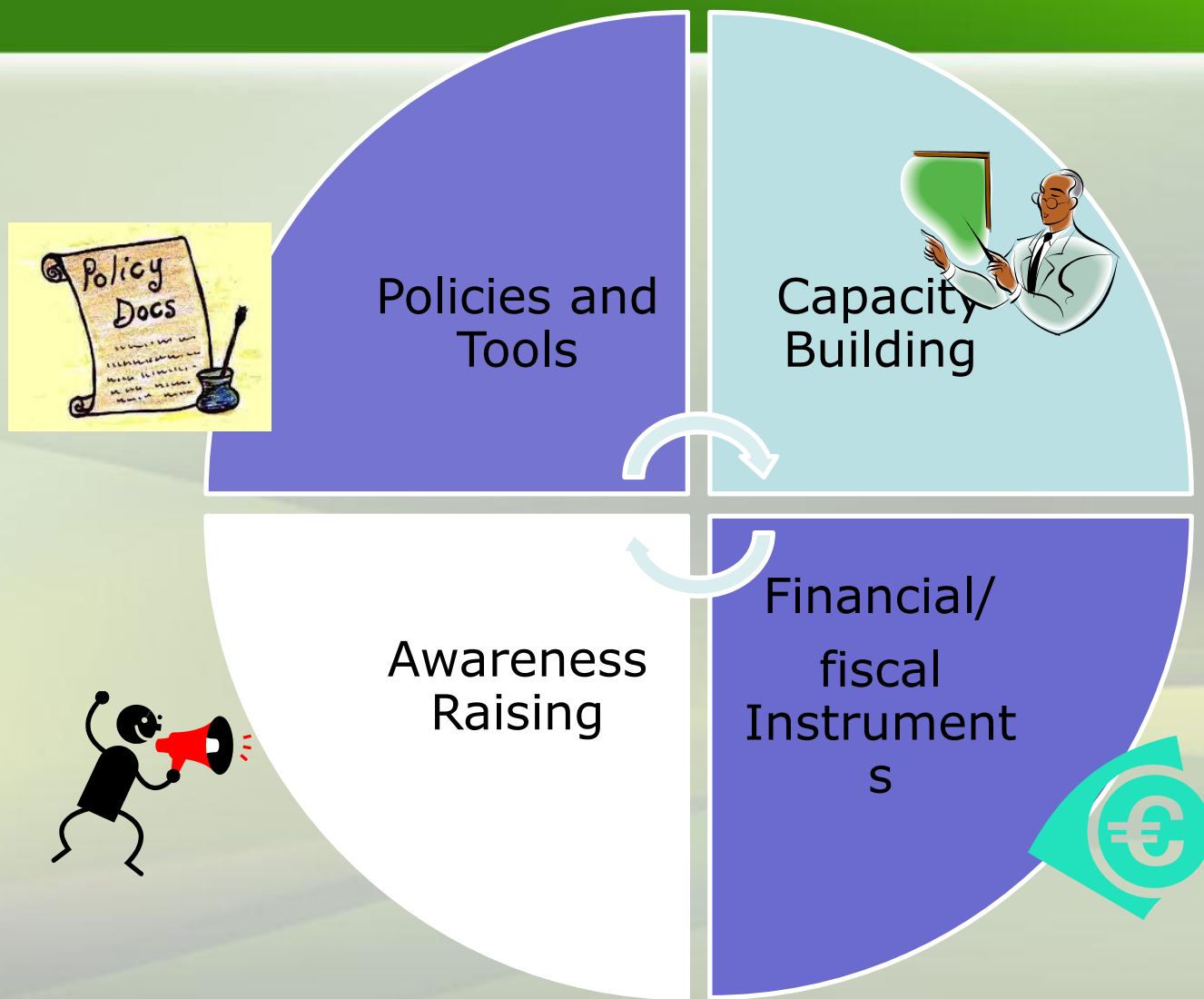
Other sectors/initiatives/measures

- Industrial energy efficiency initiative
- Transport sector
- Other sectors
- Cross-cutting measures

Energy Efficiency Measures

No	
Measure (title)	
Type of measure*	
Priority (1 to 5 from highest to lowest)	
Existing or planned	
Time frame (start year –end year)	
Description of the measure	
Target group **	
Implementing body/parties	

Types of measures



Target groups

- investors,
- end users,
- public administration,
- planners, architects,
- installers,
- equipment manufacturers, retailers,
- energy suppliers etc.?

Preparation and follow-up of NEEAPs

- **Preparation:**

- Please explain the public consultation carried out for the preparation of this NEEAP
- Which stakeholders were involved?
- If applicable, how were regional and/or local authorities and/or cities involved in the preparation of this NEEAP?

- **Follow-up:**

- National authority or body responsible for the follow-up of the NEEAP
- Monitoring system?
- Regional/local energy efficiency strategies?

Merci beaucoup
Thank you very much
Obrigado

Support Slides



Regional efficient lighting strategy

- *CAP - Country with advanced MEPS/SPM/MVE/ESM programs underway or planned
- *CSP - Country with some MEPS/SPM/MVE/ESM programs underway or planned
- *CNP - Country with limited or no MEPS/SPM/MVE/ESM programs

EEEP: Regional targets

- **lighting:** phase out inefficient incandescent bulbs by 2020;
- **electricity distribution:** reduce losses in electricity distribution, from the current range of 15% to 40%, to under 10% by 2020;
- **cooking:** achieve universal access to safe, clean, affordable, efficient and sustainable cooking for the entire population of ECOWAS, by 2030;

EEEP: Regional targets

- **Standards and labels:**
 - establish an ECOWAS Technical Committee for Energy Efficiency Standards and Labelling, and adopt initial region-wide standards and labels for major energy equipment by end 2014;
 - develop and adopt region-wide efficiency standards for buildings (e.g. building codes);

Defining electricity distribution losses

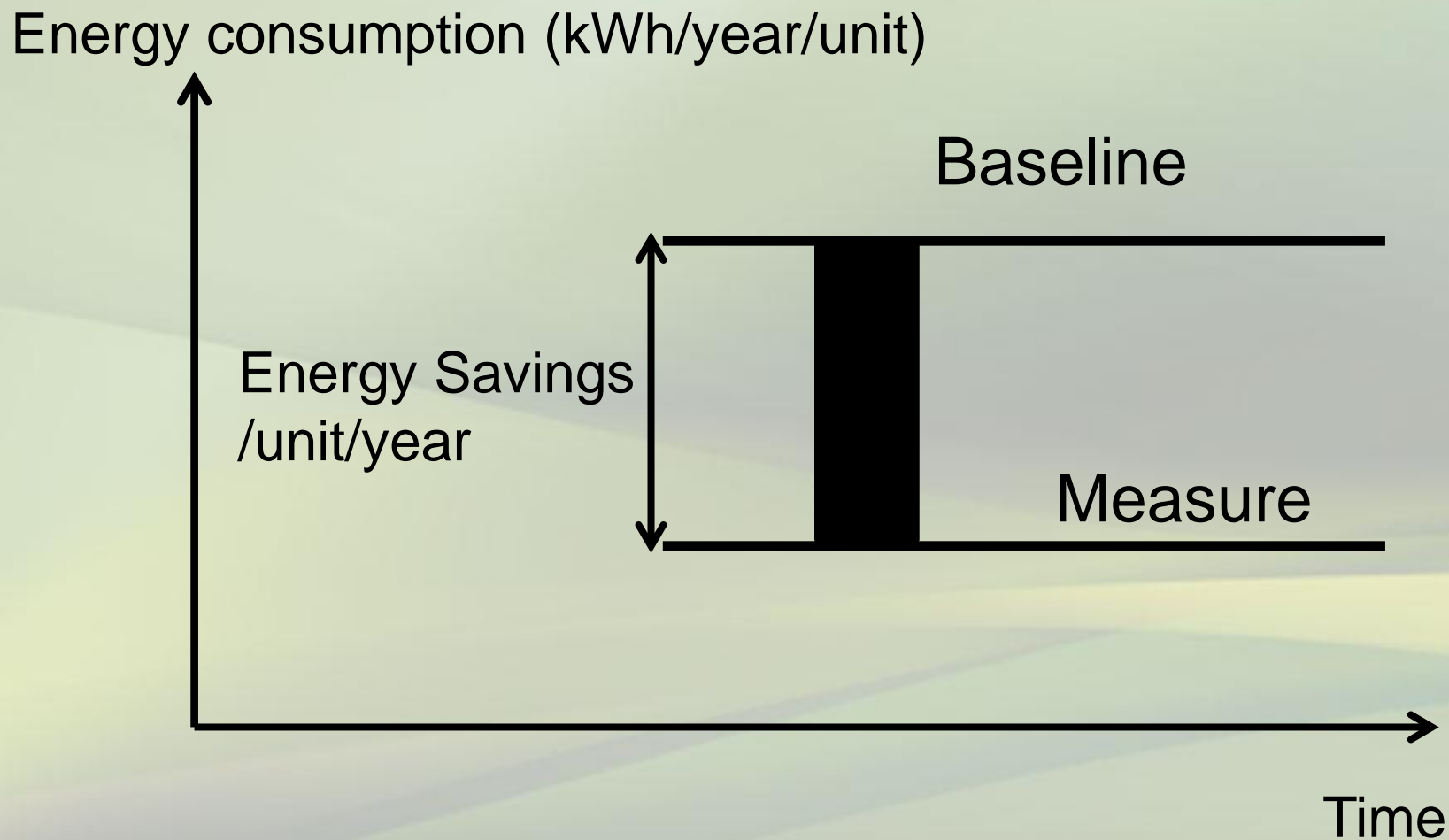
Electricity supplied (GWh) – electricity billed (GWh)

Electricity supplied to the grid (GWh)

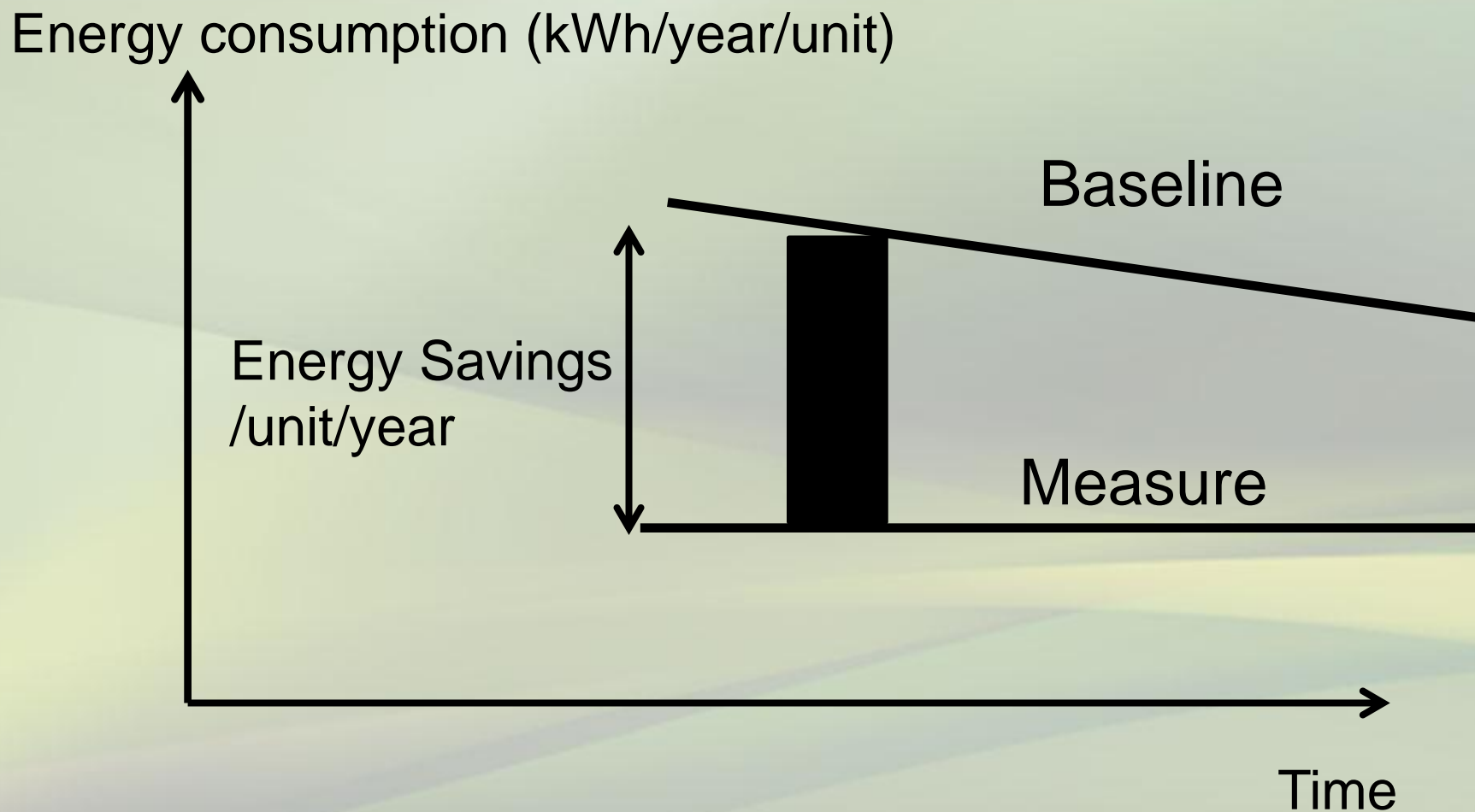
Electricity Purchases (GWh)– electricity Sales (GWh)

Electricity purchases (GWh)

Energy savings



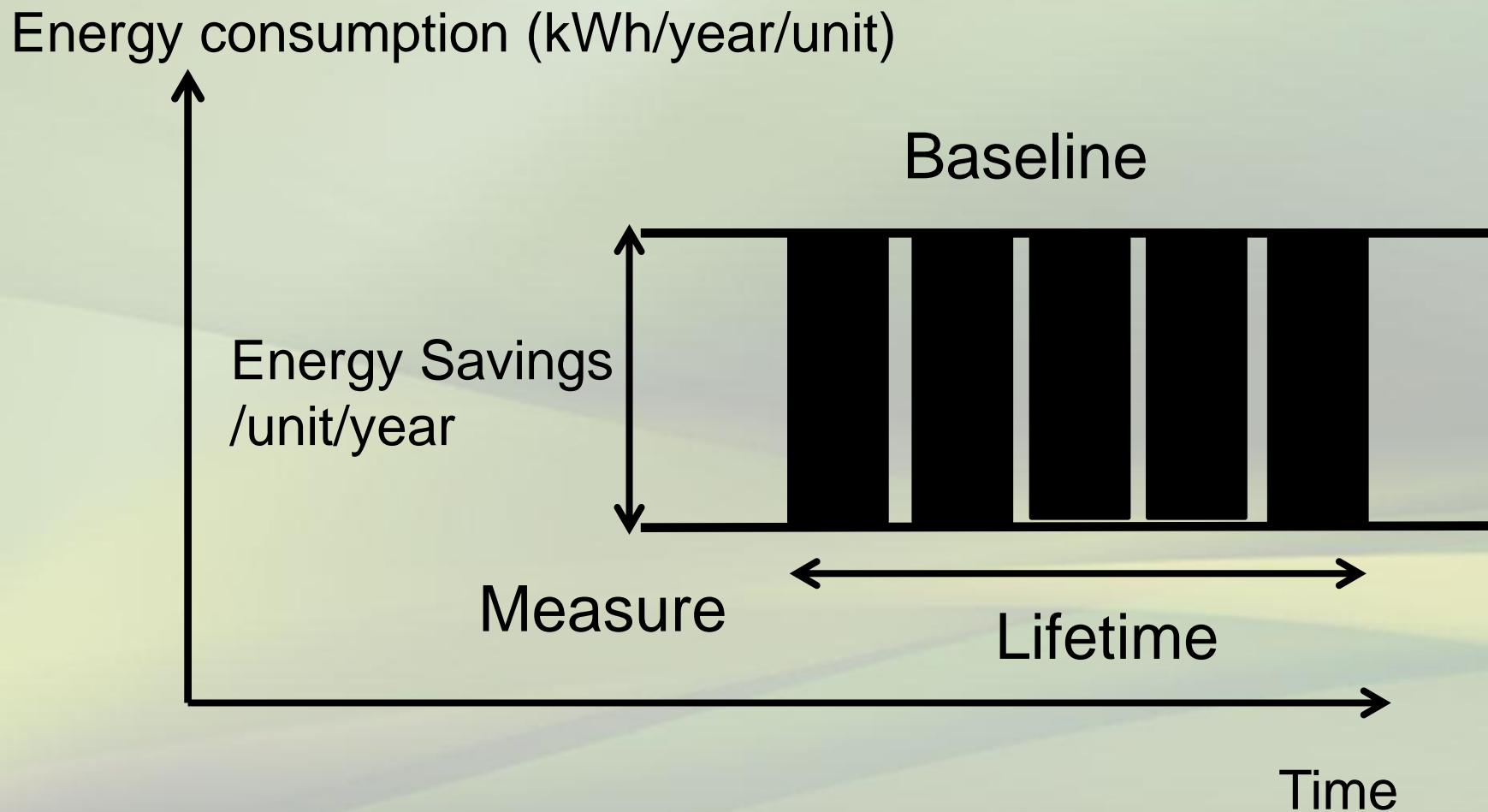
Energy savings



Baseline

- What would have happened if the EE measure is not implemented
- Baseline cannot be measured
- It is hypothetical

Energy savings



Regional lighting strategy: baseline market studies

- Conduct baseline market studies on on-grid and off-grid efficient lighting products in all ECOWAS countries

Calculation methods

- Top-down
 - energy efficiency indicators on aggregated (e.g. sectoral) level
 - does not provide exact measurement
 - does not show cause and effect of measures
 - simpler, less costly
- Bottom-up
 - savings from specific energy efficiency measures
 - all savings from measures are added up
 - double counting has to be avoided

SE4ALL Global Tracking Framework (GTF)

- the SE4ALL Global Tracking Framework for energy efficiency will:
 - Rely primarily on energy intensity indicators
 - Use PPP measures for GDP and sectoral value-added
 - Use primary energy supply for national indicators and final energy consumption for sectoral indicators
 - Complement those indicators with energy intensity of supply and of the major demand sectors

SE4ALL Global Tracking Framework

The SE4ALL Global Tracking Framework for energy efficiency will:

- Provide a decomposition analysis to at least partially strip out confounding effects on energy intensity
- Use a five-year moving average for energy intensity trends to smooth out extraneous fluctuations

Lighting: Categories in CLA

- Categories according to en.lighten country light assessments (CLA)
 - Residential
 - Commercial/industrial
 - Outdoor

Lighting: Technologies in en.lighten CLAs

- incandescent
- tungsten halogen
- compact fluorescent
- light emitting diode
- high intensity discharge
- efficient high intensity discharge
- linear fluorescent
- efficient linear fluorescent