



SE4ALL and the ECOWAS Sustainable Energy Policy and Enabling Environment Program

Regional Sustainable Policies and National Action Plans



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The Role of Targets

- Provide a **key signal to investors**, manufacturers, gov't agencies, etc.
- **Mobilize actors and stakeholders**
- **Help attract investment**
- Provide a **clear vision**



- **Targets are more about defining expectations than predicting the future**
- **The key is setting the direction of travel and building momentum among stakeholders**

The Role of Targets

Setting appropriate targets

- Paper targets are meaningless: **targets must be supported by concrete measures, policies, actions**
- Targets need to be **validated with stakeholders**
- Long-term targets should **be anchored by shorter, interim targets (2020, 2025, 2030, etc.)**: helps build **credibility** and **momentum**
- Regular reporting and monitoring is key: **status reports**
- **Coherence** with regional RE and EE policies



Institutional Landscape



Achieving Institutional Clarity

- Which public entities are responsible for **converting RE+EE targets into specific national policies and measures?**
- Do these agencies have a **clear mandate?**
- Are there **conflicting/overlapping mandates?** How can this be resolved?
- Do existing agencies have sufficient resources? **Where are the gaps & weaknesses?**
- Are new entities needed?
 - If yes, which entities can provide a valuable template?

→ **Achieving institutional clarity can strongly support target achievement.**

Economic and Fiscal Aspects

- **Economic Price Signals**

- Do prices reflect costs?
 - Are subsidies targeted?
 - Do they favour or hinder RE and EE?
 - Are fossil fuels subsidised?

- **Fiscal policy**

- Does fiscal policy help (or hinder) RE+EE?
- Tax exemptions (e.g. VAT)?
- Exemption from import duties?



→ **Achieving targets is much easier/likelier when the overall economic and fiscal frameworks are aligned**

Regulatory framework

- Does current energy planning include RE+EE?
 - Thinking beyond big hydro
- Framework for Independent Power Producers (IPPs):
 - Can they connect and sell to the national grid?
 - How are Power Purchase Agreements (PPAs) established & allocated?
 - Are there standard PPAs, or are they negotiated via bilateral contracts?
 - Etc.



Regulatory framework: Off-grid

Framework for off-grid electrification and access?

- Is there a national energy master plan for off-grid regions? Strategy for rural electrification? For solar home systems/lamps?
- New business models? Concessions, tenders, etc.?
- Strategies for cook stove deployment?



Information, Education, Training, Awareness Raising

- Energy information
 - National Statistics
 - Energy resource maps (wind, hydro, solar ...)
- Education and Training for energy professionals
 - Trades people
 - Engineers and technicians for RE, EE
 - Finance and business training
 - Awareness raising for small businesses and industries
 - Opportunities for partnership with existing educational institutions



Renewable Energy Policies

- Grid connection and dispatch rules
- Bilateral contracts
- Tenders/Auctions
- Feed-in Tariffs (FIT)
- Net Metering
- RE Mandates (i.e. RPSs)?
- Are other support measures being considered (e.g. VAT exemptions, grants, low-interest loans)?



Good practices for On-Grid RE Policy

1. Long-Term RE Targets (e.g. 10-15 years)
2. Cost-based PPAs
3. Clean Grid Connection Rules (dispatch, curtailment, etc.)

+ De-risking tools:

- Guaranteed Purchase (Take or Pay)
- Priority Dispatch of RES-E
- Currency de-risking
- Low-interest loan facility/credit guarantees/risk insurance



Measures relating to Cooking

- Sustainable Forest Management
- Charcoal production, transport
- Improved wood/charcoal stoves
- LPG for cooking
- Alternative cooking technologies
 - Modern biomass fuels: pellets, biogas, ...
 - Solar cooking



Good Practices in Energy Efficiency Policy:

- ECOWAS policy framework: Regional Energy Efficiency Policy
- Flagship initiatives:
 - Lighting, cooking, electricity distribution, buildings, standards and labels, industry, finance
- Necessity for public action:
 - Public procurement
 - Phase-out and substitution strategies
 - Raise EE standards for energy using equipment

Energy Efficiency Measures: *Lighting*



- Regional strategy for efficient lighting
 - Minimum energy performance standards (MEPS)
 - Supporting policies and measures
 - Monitoring, verification and enforcement (MVE)
 - Environmentally sound management
- Which elements of the regional strategy are already in place?
- Options for massive roll out?
 - Utility based? Carbon credits? ...

Energy Efficiency: *Electricity Grid losses*



1. Diagnostic study
2. National power sector round table
 - Political and technical consensus
 - Utility, Ministry, Regulator, Investors/banks

→ **Combined programme:**

- Technical losses: infrastructure, maintenance, operations
- Commercial losses: non payment and theft
- Customer relations: billing, ...

Energy efficiency: *Buildings*



- Regulatory framework
 - Integrate energy into building code
 - Organise effective permitting and inspections procedures
- Develop model designs for small buildings
- Flagship projects: public buildings and publicly accessible buildings
- Training on energy efficiency in buildings
 - Architects, designers, engineers, trades people
 - Building users and owners
- Financial instruments for building EE

Energy efficiency: *Industry*



1. Locate and quantify energy use

- Where is energy used?
 - Cement, canning, hotels, ...
- Which technologies use most energy?
 - Cross cutting technologies? Motors, boilers, ...
 - Industry specific technologies? Cement kilns, ...

2. Mobilise appropriate technical expertise

3. Identify technico-economic potential

4. Develop public policy tools to realise potential

- Fiscal, regulatory, economic, financial (ESCO), ...

Questions on measures?

National RE+EE scenarios: *What are scenarios for?*

- Illustrate the consequences of specific measures
- Stimulate discussion among stakeholders
- Facilitate the evaluation of different options

What a scenario consists of

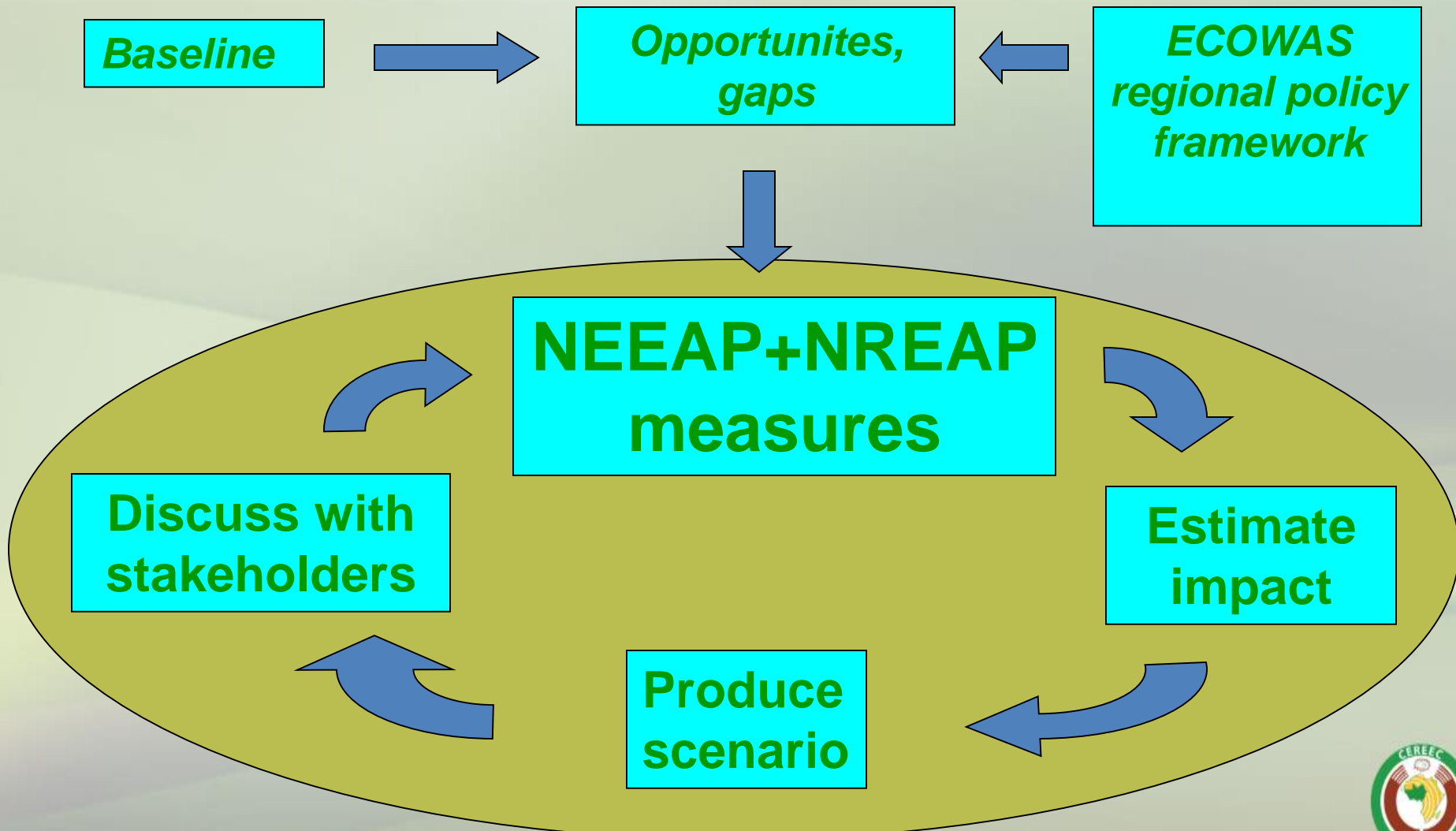
IF

public authorities adopt *measures* A, B and C,
that have *impacts* L, M and N

THEN

the *consequences* (energy, economic,
environmental, jobs, ...) might be X, Y and Z

Use of Scenario



ECREEE Scenario tool

- What it does
 - Create a numeric illustration of a national energy trajectory, consequent to execution of national action plans
- How it is made
 - Simple, modular EXCEL spreadsheet
 - Easy to use, easy to modify to fit national conditions
- What it does not do
 - NOT an energy or power sector planning tool
 - NOT a forecasting tool

How to use the scenario tool:

Step 1, Essential national data

Name of country

Population

GDP

Currency name, exchange rate

Power system: capacity, generation, tariff, % of access

Grid losses

RE (hydro, wind, PV):

current generation

technico-econ potential

Baseline year

Target years for implementation of action plans

How to use the scenario tool:

Step 2, Optional data

- Review all other parameters, adjust as appropriate
- Demography, economics
- RE+EE
 - Technico-economic potential, national conditions
 - Investment and operating costs
- Cooking:
 - National options: LPG, improved wood/charcoal, modern biomass, solar ...
 - Costs, technical parameters, ...

Extract of sample scenario

Baseline scenario ("Baseline") for the power sector

	2013	2018	2023	2028	2033
Annual electricity generation (GWh)	4'000	5'105	6'516	8'316	10'613
of which renewable generation (GWh)	311	311	311	311	311
Value of electricity generation (000 000 Euro)	800	1'021	1'303	1'663	2'123
Value of fossil fuel consumption (000 000 Euro)	369	479	620	800	1'030
Rate of access to electricity	40.0%				

Scenario NREAP - NEEAP - SE4ALL

Additional renewable electricity generation (GWh)	0	561	1'495	2'430	2'430
Value of renewable electricity generation (000 000 Euro)	0	112	299	486	486
Savings in electricity consumption (GWh)	0	666	1'685	2'799	3'806
Value of savings (000 000 Euro)	0	133	337	560	761
Efficiency + renewables (GWh)	0	www.cerrec.org 1'227	3'180	5'229	6'236



How to use the scenario tool:

Step 3, Review scenario

- Review proposed scenario
 - Does it fit national conditions?
 - Do the calculations provide reasonable results?

→ ***Is it adequate to stimulate discussion?***

- If scenario is not adequate:
 - Adjust value of parameters,
 - Modify calculation algorithms
 - Delete or add sheets, where appropriate
- If problems are encountered, request support from your backstopping expert.

Merci. Thank you. Obrigado.



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