

Conference Renewable Energy and Sustainable Development in Rural Areas in the ESCWA Region

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Session 2

Renewable Energy Trends, Policies and Incentives for Rural Areas Sustainable Energy



Integrated Renewable Energy Policies in the Rural Areas of ESCWA Region



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Outline



1. Diagnostic on RE in ESCWA rural areas
2. Integrated socio-economic and energy strategies
3. Conclusions & recommendations





1. Diagnostic on RE in ESCWA rural areas

ESCWA rural areas: important weight and serious challenges

- 43% of population, 37% employment and 38% land use
 - 70% of poor in ESCWA region live in rural areas
 - Rural electrification rate: 95-99% (except Yemen, Sudan)
 - Energy poverty: 36 million (12%); unreliable supply (15%)
 - Household energy consumption high share (electricity: 44%)
 - Uses: domestic, transport, water pumping
- ➔ National & sectoral public policies need to include rural dimension

MEDPRO, FP7 EuroMed project

(2010-Feb. 2013)



Cross-sectoral research at horizon 2030 on 6 main fields inc. economic integration, environment, energy and climate change

- Technical papers, scenarios, policy briefs
- Workshops, regional and country conferences

→ www.medpro-foresight.eu

Energy and climate change mitigation

Trans & infra-regional energy policy dialogue platform

- **Four Vertical Tasks**

- Task 1: Harmonized legislative and regulatory framework
- Task 2: Knowledge Transfer & Capacity Building
- Task **3: Support to sustainable energy policies**
 - 8 Country Sustainable Energy Policy Road Maps
 - Paper Sustainable Energy Policies
- Task 4: Support to Investment

- **Two Horizontal Tasks**

- Task A: Mediterranean Grid and European Backbone Evaluation
- Task B: Support of MSP implementation

→ All reports on www.pavingtheway-msp.eu

Library / Sustainable Energy Policy

EE&RE policy & institutional set-up in Arab Med countries-AMCs

ANNEX 4: National socio-economic and energy strategies and institutional organization in Mediterranean Partners Countries

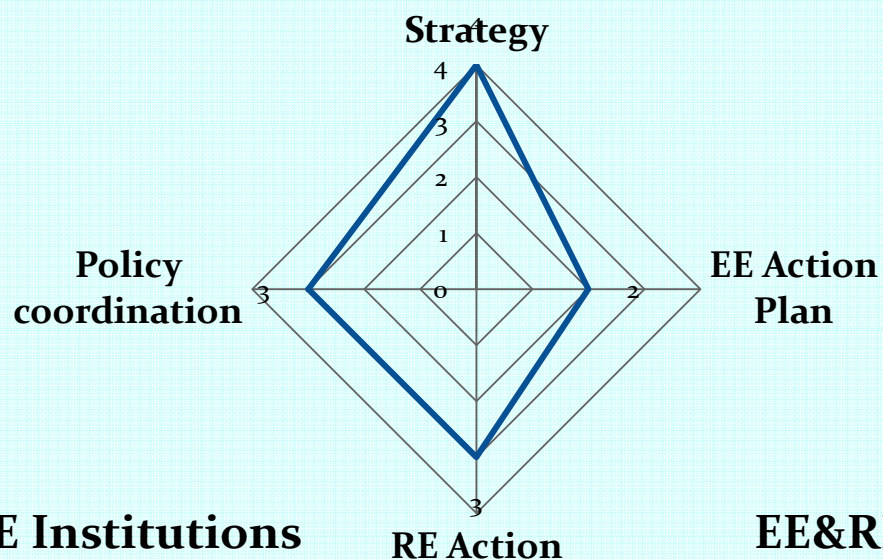
Legend

	The 'Red Light' indicates a basic level of progress
	The 'Amber Light' indicates an advanced level of progress
	The 'Yellow Light' indicates a level between advanced and mature
	The 'Green Light' indicates a mature level of progress

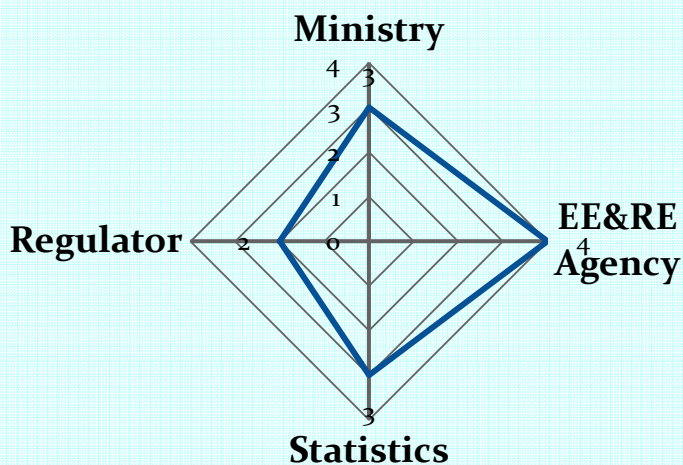
	Socio-economic development		Energy Strategy					Institutional organisation					EE&RE instruments			
Country	National socio-economic strategy*	Poverty Reduction Strategy Paper* (PRSP)/ individualised subsidy schemes	NES*	NEEAP*	NREAP*	EE&RE targets**	M&E	EE&RE Dpt at Energy ministry	Energy unit at statistical office	Independent energy regulator	EE&RE agency	R&D agency	EE/RE law	EE S&L	Programmes	Communication
Algeria	-	-/-	-	Under preparation(1)	-(1)	EE: - RE: 15% by 2020	Basic	EE&RE units at MEM	ONS	CREG (2005)	APRUE (EE) (1988) Commissariat for RE (planned)	CDER	EE: 1999 RE: 2004	Labels (2009)	Various (EE&RE)	Limited
Egypt	-	PRSP /-	2008 (needs revision)	2012 (under implementation)	Solar Plan (2011) Master Plan (planned)	EE: 5% by 2015 RE: 20% by 2020	Limited	EE unit at MEE	CAPMAS	ERA (2001)	RE: NREA (1986) EE: EEU (2008)	RE: NREA	-	5 appliances (voluntary)	Limited (CFL)	Limited/fragmented
Jordan	-	PRSP/Individualized support scheme from 2005	2007 (needs revision)	2012 (under implementation)	-	EE: 20% by 2020 RE: 10% by 2020	Intermediate	EE&RE units at MEMR	DOS	ERC (2005)	NERC (for some items)	NERC (1999)	EE&RE law (2012)	Under preparation	Various (EE&RE)	Limited
Lebanon	-	-/-	2010 (for electricity; needs revision)	2011 (under implementation)	NEEAP partly covers RE	EE: 5% by 2015 RE: 12% by 2020	Limited	-	ACS	-	LCEC	-	Electricity Law (2002)	4 appliances (not compulsory)	Various (EE&RE)	Targeted

MOROCCO EE/RE Policy Profile

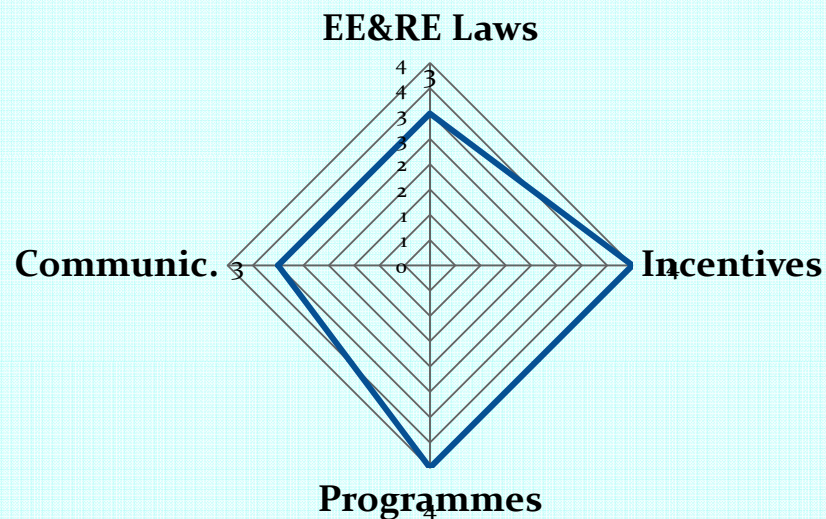
Energy Policy



EE&RE Institutions



EE&RE Instruments



Multiple & cross-sectoral barriers to EE&RE deployment

Items	Features	Impacts / Barriers
Economics	GDP growth Commercial deficit Investment risks (inc. restrictions on FDI) Informal economy	Large new infrastructure requirements
Financial	Budget deficit and public debt Limited financing for medium–long–term investments	Constrain public funding & EE&RE investment financing
Social	Poverty and inequalities Demographic growth Unemployment	Generate energy poverty
Energy policy & regulation	Lack of policy coherence Legal uncertainty and permitting Vertical with limited role and action of independent regulators (when existing) on SE Artificially low prices (high universal price subsidies) Access to grid and markets	Limit energy company investment Inflate demand, waste and creates shortage Discourage EE&RE investments
Energy Demand	In rapid expansion as result of economic and demographic growths, low prices and outdated EE standards	Pressure on infrastructure especially for peak electricity
Energy sector	Dominant public energy monopolies under relatively weak regulation and ownership/shareholding management. High generation and T&D electricity losses (19%) and limited incentives to reduce them	Investment decisions lack economic and financial assessment
RE investment	High upfront investment cost Inadequate tax system High transaction costs	

▶ Arab Mediterranean's Sustainable Energy Best Practises

• Energy policy

- **National energy strategy** (MOR, EGY, JOR)
- Action plans: **NEEAP** (JOR, LEB, EGY), NREAP (TUN)
- M&E: indicators (TUN)

■ Institutional

- **Decentralized and specialized setting** (JOR, MOR), Ministry (ALG)
- **Agencies:** EE&RE (TUN), regulator (EGY, JOR, ALG), statistics (TUN, MOR, JOR)
- Inter-institution coordination (EGY, JOR, MOR, TUN)

■ Instruments

- **Legal framework** (EE&RE law in JOR, RE law in MOR, SWH in PAL)
- **S&L for appliances** (TUN)
- Support schemes (financing, tax cuts): **PV net metering** (JOR, TUN)
- RE competitive bidding and financing (MOR, EGY)
- **Take-off packaged programmes:** CFL dissemination with manufacturing (EGY), SWH (PROSOL for households & services in TUN)
- **Dissemination & promotion:** ANME (TUN), LCEC (LEB)

→ 2020 RE investment pipeline: **18.5 GW-rural?**

Source: PWMSP

SE Action Plans (SEAP): operational implementation tools

➤ **NEEAP and NREAP**

- Goals: effective enforcement (how, by whom, when?)
- Means: selected mechanisms, tools, responsibilities, resources and implementation calendar
- M&E

➤ **Arab Energy Efficiency Guidelines-LAS (2010)**

- NEEAP template: adapted EU approach focused on electricity demand
 - TA: MEDENEC, RCREEE
 - NEEAP (LEB, JOR, EGY, PAL, TUN)
- Provide clear framework, dynamic and M&E



... Is RE policy sufficient to address those barriers in ESCWA rural areas?

- Rural areas face common and specific barriers
- While EE&RE action plans are crucial policy tools, only a bottom-up approach remains constrained and not enough vs. structural and interlinked socio-economic and energy barriers
- ➔ **Need for an overall and top-down integrated Socio-economic and Energy Strategies to overcome structural barriers**

2. Integrated Socio-economic and Energy Strategies in rural areas

A. Socio-economic development strategy: set fundamentals & vision

□ Structural socio-economic transversal reforms

- Strong administrations
- Solid statistical system
- Improved governance (public administration and corporate)

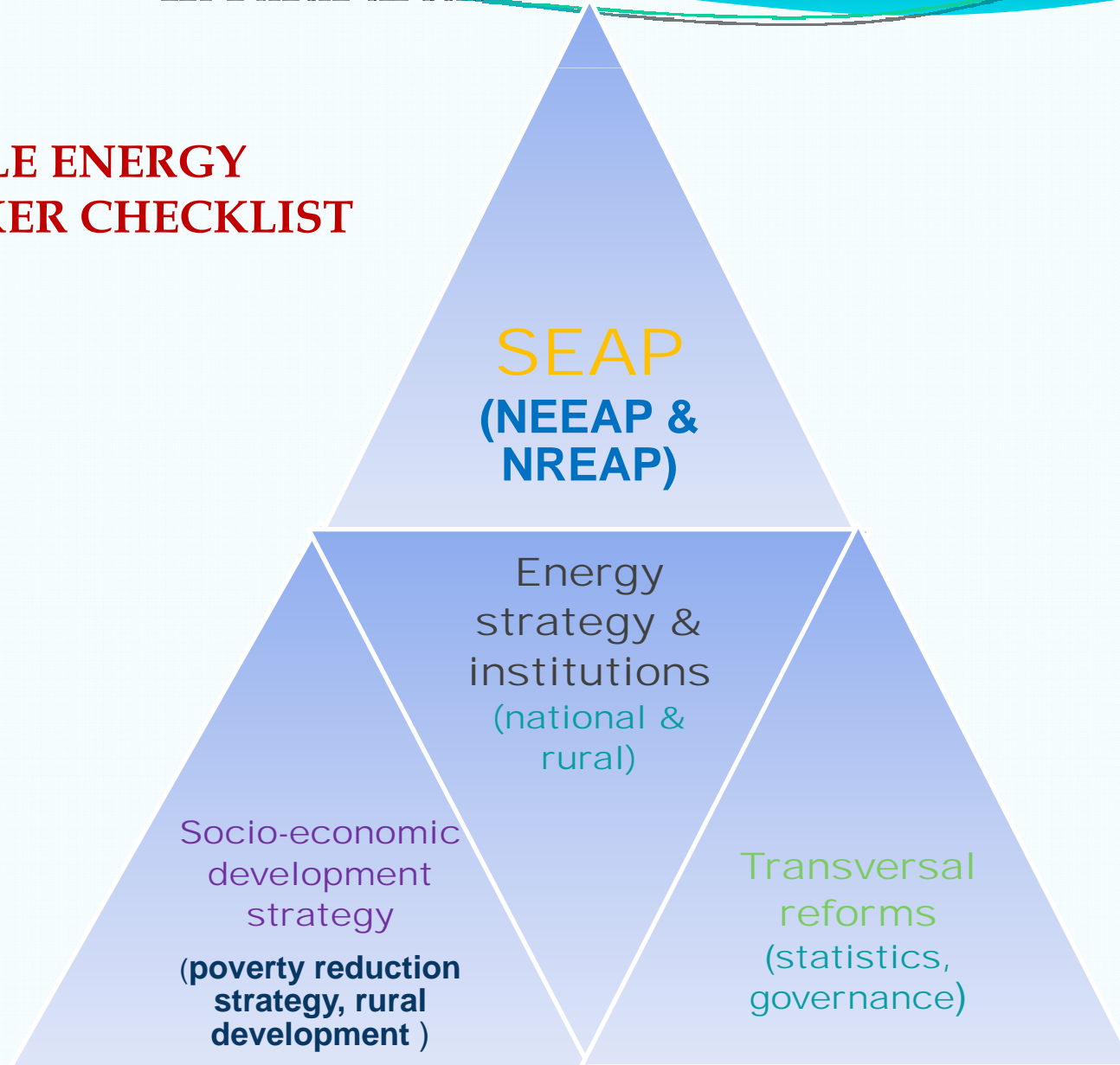
□ Multi-sectoral socio-economic development strategy

- Medium to long-term vision and priorities for high potential/promising sectors (inc. green economy-TUN, JOR, MOR; recycling)
 - ➔ Address main socio-economic imbalances for rural development
 - ❖ Infrastructure
 - ❖ Poverty reduction

Integrated Socio-economic and Energy Strategies in rural areas

SUSTAINABLE ENERGY POLICY MAKER CHECKLIST

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Universal Energy Subsidies: a complex & pressing issue

How to replace universal energy consumption subsidies by targeted support?

Widespread universal energy price consumption subsidies (all customers)

❖ **Egypt** (% of customer prices, 2010): 75% for diesel, 90% LPG, 80% natural gas, 30% electricity with lifeline (“block”) electricity tariff

❑ **Diagnostic: little efficient and unsustainable**

- Inefficient to mitigate energy poverty: limited impact for the poor as restricted access and low consumption
- Unfair: 70% of subsidies benefit the wealthiest (Egypt: richest 20% receive 40%) but cost paid by all
- Costly: high burden for state budgets (EGY: 20% or 12% GDP; 2010)
- Detrimental to demand control, EE&RE
- Create shortage at expense of customers
- Encourage smuggling and pollution

✓ **Politically & socially hyper-sensitive**



Source: FP7 MEDPRO
www.medpro-foresight.eu



Jordan's Poverty reduction strategy:

Targeted energy support (2005/2010)

1. Gradual reduction of universal fuel price subsidies

- . 2008: 5% → 2010: 2% of GDP

- . Oil product prices liberalized (except for LPG) with automatic fuel price adjustment mechanism

2. Targeted support

- Targeted subsidies by National Aid Fund → individual safety net

- Winter cash assistance (for households below USD 1,100/year)

- Social assistance: monthly aid of USD 40 per family member (max. USD 250)

- Lifeline (or “block”) electricity tariff (3 tranches up to >500 kWh/month)

- Increase of civil servant salaries (~ 60% of population)

→ Jordan's targeted support scheme: **30-50% cheaper** than initial subsidies and more effective to reduce poverty



Lessons on targeted support

Specific social tools to ease the burden of high energy prices for poorest population

- Targeted and individualised cash support/subsidy/safety net
- Lifeline or “block” electricity and gas tariffs (low rates for small users for their first tranche of consumption)
- Energy efficiency measures (e.g. flat insulation, low consumption Class A appliances)

Means

- Accurate and up to date statistical system on social, economic and energy situations → Price and demand surveys and database
- Individual database of vulnerable households by dedicated public agency
- Electricity & gas block tariffs, individual safety net tool mix (cash, salaries increase...etc.)
- Field and simulation studies and surveys by multi-skill teams inc. sociology
- Neutral and clear communication

Steps

- Clear & gradual path of reforms: phase out of universal subsidies compensated by targeted support to vulnerable families with close monitoring & communication
- Targeted support studies & pilots to design specific scheme
- Ensure security of supply (limit shortages)

B. National energy strategy

- **A structured and systemic reference document** (all sectors and fuels, demand/supply) with medium/long-term vision, goals and priorities
- **Four pillars**
 - **Energy security and access**
 - . Rural electrification and poor areas
 - . Within targeted social support: social/block tariffs
 - **Energy efficiency : EE potential → NEEAP → S&L, CFL, insulation**
 - **Regulatory reforms**
Progressively set cost-recovery tariffs by independent regulator (phasing out of universal price subsidies and cross-subsidies)
 - **Energy sector restructuring**
Corporate governance, unbundling of transmission & distribution
- **Statistics and tools**
 - . Statistics: energy **balances**, **price** database, EE&RE indicators
 - . Economic **tools**: demand forecast, least-cost plan, RE investment (Med-IMPACT)
- Public debate/consultation with stakeholders & civil society -“ Assises”, MOR
- ❖ **Rural areas**: sectoral → territorial & cross-sectoral policy implementation

PWMSP Road Map's main Recommendations

1. Energy policy

- Define/revise national **energy strategy** (MOR, TUN, EGY, LEB, LYB, JOR, PAL)
- **EE priority**: set/revise and enforce LAS/RCEEE **NEEAP** (all) and **NREAP** (all exc. TUN)
- M&E: set procedures and indicators (all AMCs) based on solid & harmonised statistical system (energy balance)-**MEDSTAT**

2. Institutional organization

- **Ministry** (leadership): establish EE&RE unit (EGY, LEB, LYB, PAL)
- **Regulator**: establish independent body (MOR, TUN, LEB, LYB)
- **EE&RE agency**: create national EE agency (EGY, LYB, PAL) and strengthen existing EE&RE agency (ALG, EGY, JOR, LEB, MOR)
- Inter-institution coordination (consultation and coordination): all AMCs

3. EE&RE Policy Instruments

- **Legal tools** (framework laws) inc. S&L (ALG, MOR, EGY, LYB JOR, PAL)
- **Support schemes** (financing, tax cuts): EE&RE funds (all except JOR & TUN), PV net metering (all except JOR & TUN)
- **Take-off programmes**: packaged schemes (integrated technical and financing support) (all except TUN)
- **Communication** and dissemination (all AMCs)

Source: PWMSP

Energy institutional organization: a key component

➤ Energy **ministries**

- Set long-term vision, leadership and coordination
- Specific support bodies: strategy and forecasting development

➤ Specialized **agencies** to implement strategy and action plans

- Statistical office
- Regulator
- EE&RE Agency
- Others: academics, research centres and think-tanks

➔ **Rural areas: local development agencies** for rural development and infrastructure inc. RE (advice, training, project development, fund-raising)

➤ Inter-institution coordination

➤ Critical mass to design plans, enforce and M&E

➤ Separation of the State functions (policy, regulation, ownership) and focused and decentralised responsibilities to enhance effectiveness & efficiency and limit potential conflicts of interest and interferences

South-South energy policy cooperation

➤ **Institutions and mechanisms**

- ESCWA, LAS, RCREEE (focal regional reference for EE&RE), ECA
- Sub-regional: Arab Region (UAE), Maghreb (COMELEC), etc.
- Horizontal: MEDENER: EE&RE agency network, IRENA, AFED, MENAREC, IDEMER, etc.

➔ **Policy dialogue** to share and exchange best practices

➔ **Joint initiatives:** LAS/RCREEE on NEEAP, EE projects in GCC (UAE, KOW, Qatar)

➤ **Frameworks**

▪ **Abu-Dhabi Declaration on Energy & Environment (2003)**

1. Integrating energy strategy in national development strategy
2. Increasing energy sector economic efficiency
- 3&4. Expanding energy access & responding to demand
5. Promoting EE
- 7, 8 & 9. Enhancing deployment of cleaner technologies inc. RE
- 10, 11 & 12. Enhancing regional cooperation, capacity building and information exchange

2020 Regional Policy Cooperation Priorities in AMCs



- **Untapped Sectoral/Transversal EE&RE potential at low cost**
 1. Regional database on energy **prices** & tariffs: key for all stakeholders
 2. **Targeted subsidies**: best practices, pilots
 3. **Institutional**: set up and capacity development (ministries & agencies)
 4. Policy cycle: Best practices on SEP and **M&E** procedures & indicators
 5. **S&L** for appliances: set and enforce standards (MEPS) & labels
 6. Electricity generation & transport **losses**: incentive regulation
 7. **RE**: packaged programmes (e.g. SWH, PV net metering)
 8. **Financing**: National/Regional EE&RE integrated funds

3. CONCLUSIONS

□ Diagnostic

- ▶ Structural and interlinked socio-economic and energy **barriers** for EE&RE, especially in rural areas
- ▶ Impressive SEP **progress** in all Arab Med countries-AMCs → Multiple **best practices** (BP) in cities
- ▶ EE&RE action plans key but not enough to overcome structural barriers

→ Need for integrated Socio-economic & Energy/climate Strategies to build policy & regulatory foundations

1. **Socio-economic** reforms (institutions, statistics, governance) and Strategies
2. **Poverty strategy**: targeted/smart support schemes
3. **Energy & climate strategy**: reference document & statistics and tools, **EE priority**
4. **Institutions**: critical mass at ministries and agencies inc. local
5. **Regulatory reforms**: cost-reflective tariffs, energy sector restructuring
6. **SE Action Plans** (SEAP) covering all sectors & energies

❖ **Regional energy policy cooperation: catalyst role**

- Abu-Dhabi Declaration, Arab EE Guidelines
- ESCWA, LAS-RCREEE, IRENA, MEDENER, AFED etc.



RECOMMENDATIONS

To ESWCA governments and administrations

R1. STATISTICS

- Reliable & relevant socioeconomic, rural and energy:
 - Data (energy balance) and indicators
 - Regional database on energy prices & tariffs (electricity: RCREEE)
- MEDSTAT, towards international standards

R2. STRATEGIES

Formulate, implement and evaluate integrated national:

- **Socioeconomic strategies** with focus on poverty alleviation through targeted subsidies → best practices, pilots
 - **Energy strategies** inc. in rural areas
- Territorial and cross-sectoral approach

RECOMMENDATIONS (2)

To ESWCA governments and administrations



R3. EE&RE ACTION PLANS

Rural areas priorities

- Effective **energy access** for poor rural households, agriculture and agro-industries (EE: **S&L**, building codes)
- **RE**: SWH, PV net metering, efficient biomass stoves via **take-off package**/turn-key (PROSOL) and regional **certification** (SHAMCI/SWH)

→ **Priorities: S&L, SWH & PV take-off packages**

R4. INSTITUTIONS

- National: pair **Ministry/implementing agencies**-EE&RE, regulators, statistics
- Rural: local **development agencies** → information/advices, support project development & fund-raising

RECOMMENDATIONS (3)

To ESWCA governments & regional stakeholders and donors

R5. REGIONAL COOPERATION

- **Policy dialogue platform/forum**
 - **Joint activities:** EE&RE deployment and industrialisation, infrastructures (grid interconnection)
 - **M&E:** Policy reviews
 - Through domestic and regional **centres/networks** (ESCWA, RCREEE, MEDENER, etc.)
- Coordination & synergies

R7. DONOR SUPPORT

- To national energy **strategies & institutional** setup & development
- Via capacity building, technical assistance, twinning, etc.

R8. REGIONAL FINANCIAL SCHEME & FINANCIAL CENTRE

- Rural households and SMEs' investment on EE&RE
- EE&RE SMEs (private, social-electricity cooperatives)

R9. R&D PROGRAMME

- Regional support scheme/facility for works on public policies (socioeconomic, EE&RE, rural/regional)

THANK YOU / MERCI / شكرا



→ **ESCWA Energy**
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