

Sustainable Energy in Arab Countries

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**Sustainable Energy Policies Experiences in
Arab Mediterranean Countries:
Challenges, Best Practices and Perspectives**

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Outline

1. Arab Mediterranean's Sustainable Energy Policies (SEP)
 - Diagnostic
 - Best Practises
2. Integrated socio-economic and energy strategies
3. Regional energy policy cooperation
4. Conclusions

Consortium members



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The MPCs Countries

- Algeria
- Egypt
- Jordan
- Lebanon
- Libya
- Morocco
- Palestine
- Syria*
- Tunisia

Cooperation

- UfM Secretariat
- MEDREG
- Med-TSO
- Medgrid
- Desertec
- French Global Environment Fund (FGEF)
- RCREEE
- OME
- Plan Bleu
- PAM (Parliamentary Assembly of Med)
- GIZ
- IFIs: EIB, WB etc

- Project Headquarters in Cairo March 2011
- Project Satellite office in Rabat Aug. 2011

* Syria: Activities suspended

PWMSP Project Tasks & Activities

(2010- Sep. 2013)

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
- 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

1. Arab Mediterranean's Sustainable Energy Policies (SEP)

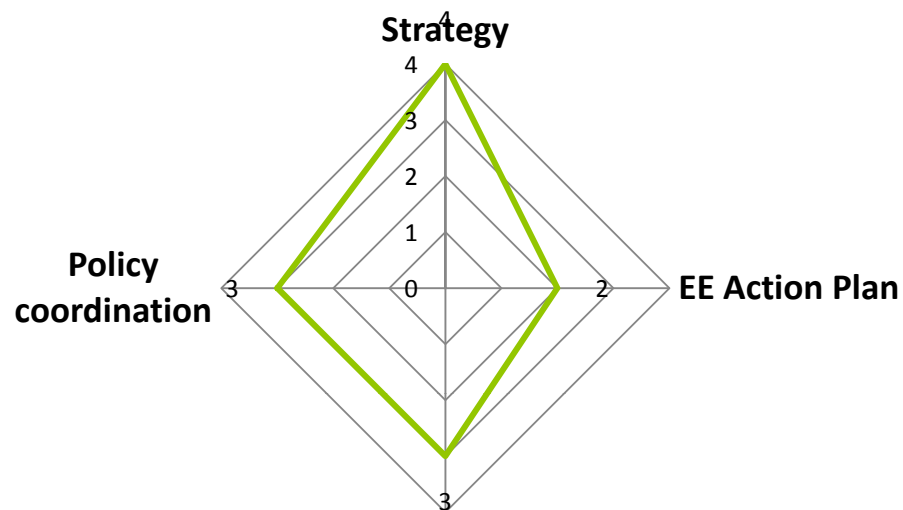
► Diagnostic: **Multiple & cross-sectoral barriers to EE&RE deployment**

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 Regulation	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 and limited incentives to reduce them	Investment decisions lack economic and financial assessment

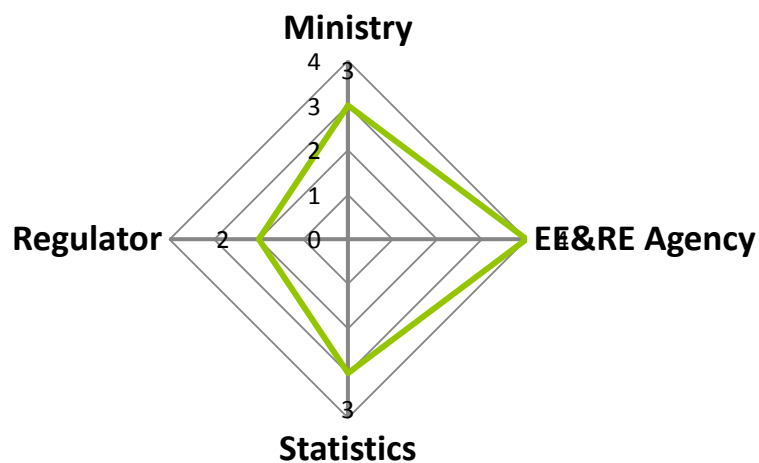
Source: PWMSP

MOROCCO EE/RE Policy Profile

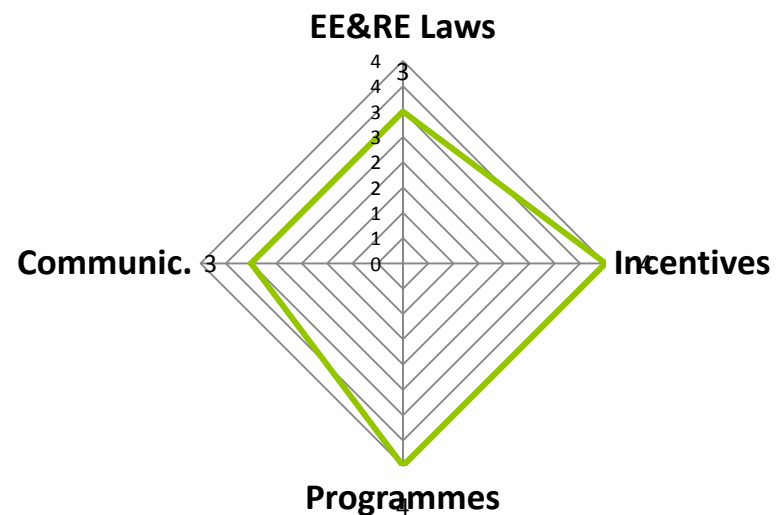
Energy Policy



EE&RE Institutions



EE&RE Instruments



► Arab Mediterranean's Energy Best Practises

- **Energy policy**

- **National energy strategy (MOR, EGY, JOR)**
- **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 residential (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)

Source: PWMSP

2. Integrated Socio-economic and Energy Strategies

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

❑ Structural socio-economic transversal reforms

- Strong institutions
- 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); e.g. *Stratégie de Développement Economique et Social 2012-2016* (TUN)

→ Address main socio-economic imbalances

- ❖ Infrastructure development (health, water, transport)
- ❖ Poverty reduction: How to replace universal energy consumption subsidies by targeted support?

Universal Energy Subsidies: a complex & pressing issue

Excessive energy bills (high consumption **X** prices compared to revenues) harm living standards leading to energy poverty (limited access) & poverty

→ MED South response: **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 households and businesses
- 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 phasing out 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. Energy/climate Strategies

PWMSP Road Map's main **Recommendations**

1. Energy policy

- Define/revise national **energy strategy** (MOR, TUN, EGY, LEB, JOR, Palestine)
- Set/revise and enforce LAS/RCREEE **NEEAP** (all) and **REAP** (all exc. TUN)
- M&E: set procedures and indicators (all MPCs)

2. Institutional organization

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

3. RE & EE Policy Instruments

- **Legal tools** (framework laws) inc. S&L (ALG, MOR, EGY, 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 MPCs)

A National Energy Strategy

- **A structured and systemic document reference** (all sectors and fuels, demand/supply) with medium/long-term vision, goals and priorities

→ Three pillars

- **Energy security and access**

- Rural electrification and poor urban areas
- Within targeted social support: social/block tariffs, rebates for A/A+ equipment and building 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/ADETEF)

→ Public debate/consultation with stakeholders and civil society (“Assises” in MOR)

Institutional organization: a key component

➤ **Energy ministries**

- Set long-term vision, leadership and coordination
- Specific support bodies: strategy and forecasting development (TUN: IES, EGY: OEP)

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

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

→ Inter-institution coordination

→ Critical mass to design plans and then 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

EE&RE Action Plans: operational implementation tools

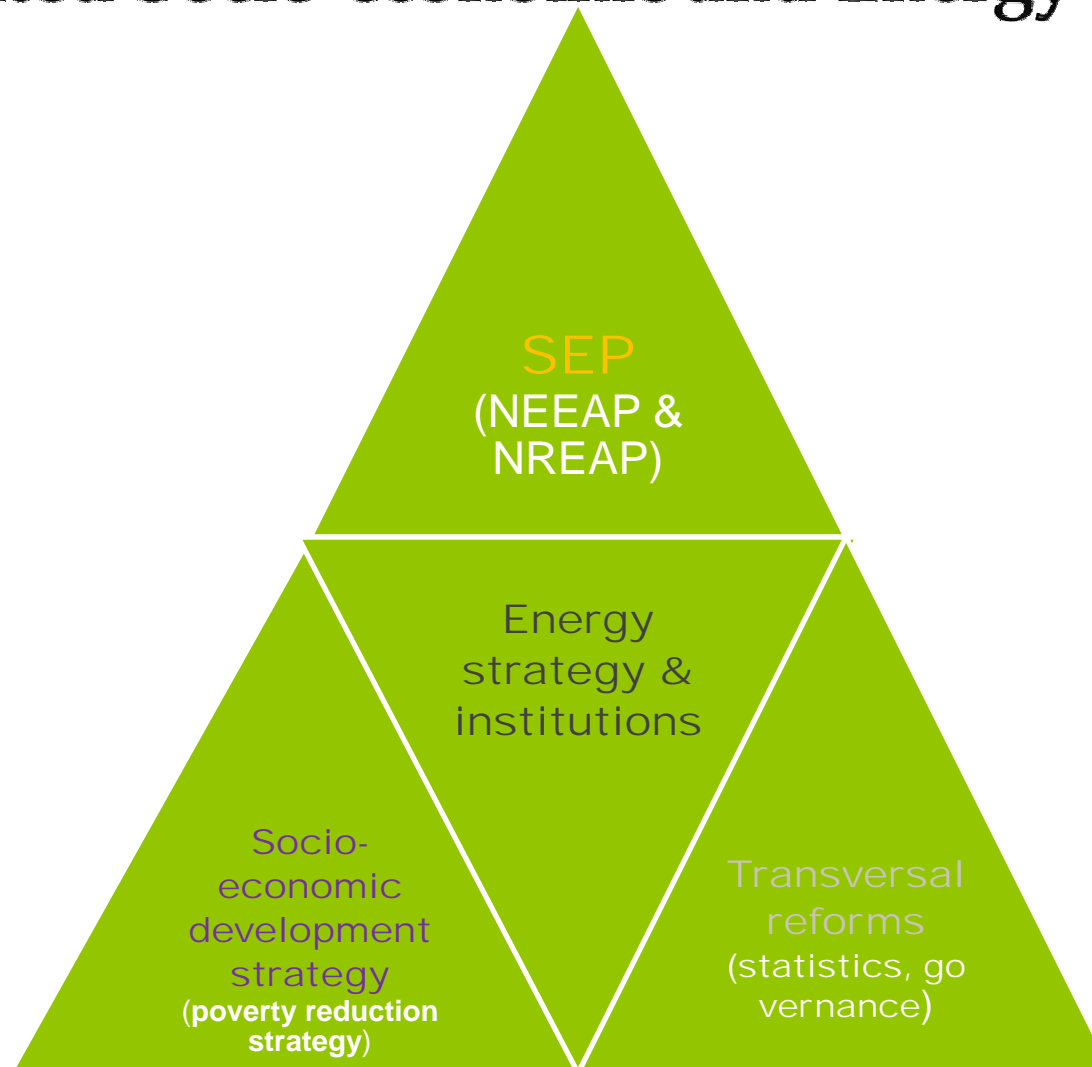
➤ NEEAP and NREAP

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

➤ LAS/RCREEE NEEAP

- Template: adapted EU approach with focus on electricity demand
 - TA: MEDENEC, RCREEE
- ➔ Provides clear framework, dynamic and M&E

Integrated Socio-economic and Energy Strategies



3. Regional energy policy cooperation

A. Institutions and mechanisms

- **Inter-regional and international**

- EuroMed
- IFIs: AfrDB, EIB, EBRD (SEMED), WB/CTF, UNDP
- UfMS: MSP MP
- EU: DE, FR, IT, etc...
- Global RE initiatives: UN-Energy, IRENA, REN21

→ TA, twinning, studies and financing

- **Intra-Regional/South-South**

- Arab region: ESCWA, LAS, RCREEE (focal regional reference for EE&RE policy cooperation)
- Sub-regional: Arab Region (UAE), Maghreb (COMELEC)
- Horizontal: MEDENER: EE&RE agency network, IDEMER

→ **Policy dialogue** to share and exchange best practices → **Joint initiatives** (LAS/RCREEE on NEEAP)

Abu-Dhabi Declaration on Energy and 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 energy efficiency
- 7, 8 & 9. Enhancing the deployment of cleaner technologies inc. RE
- 10, 11 & 12. Enhancing regional cooperation, capacity building and information exchange

B. Regional Policy Cooperation Priorities/2020

➤ 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

4. CONCLUSIONS

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

→ **Need for integrated Socio-economic and Energy/climate Strategies** (all AMCs)

1. **Socio-economic** reforms (institutions, statistics, governance) and Strategies
 2. **Poverty strategy**: targeted support schemes (pilots → implementation)
 3. **Energy&climate strategy**: reference document & statistics and tools
 4. **Institutions**: critical mass at ministries and agencies (regulators and EE&RE bodies)
 5. **Regulatory reforms**: cost-reflective tariffs, energy sector restructuring
 6. **SE Action Plans**: NEEAP & NREAP covering all sectors & energy forms with M&E
- ❖ **Regional energy policy cooperation: catalyst role**
- Priorities & frameworks for BP exchange
 - **EuroMed**: consolidate and strengthen framework and activities
 - **South-South**: ESCWA, RCREEE/focal reference, MEDENER

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PWMSP: www.pavingtheway-msp.eu

Library / Sustainable Energy Policy

MEDPRO: www.medpro-foresight.eu/en

Energy and climate change mitigation

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