

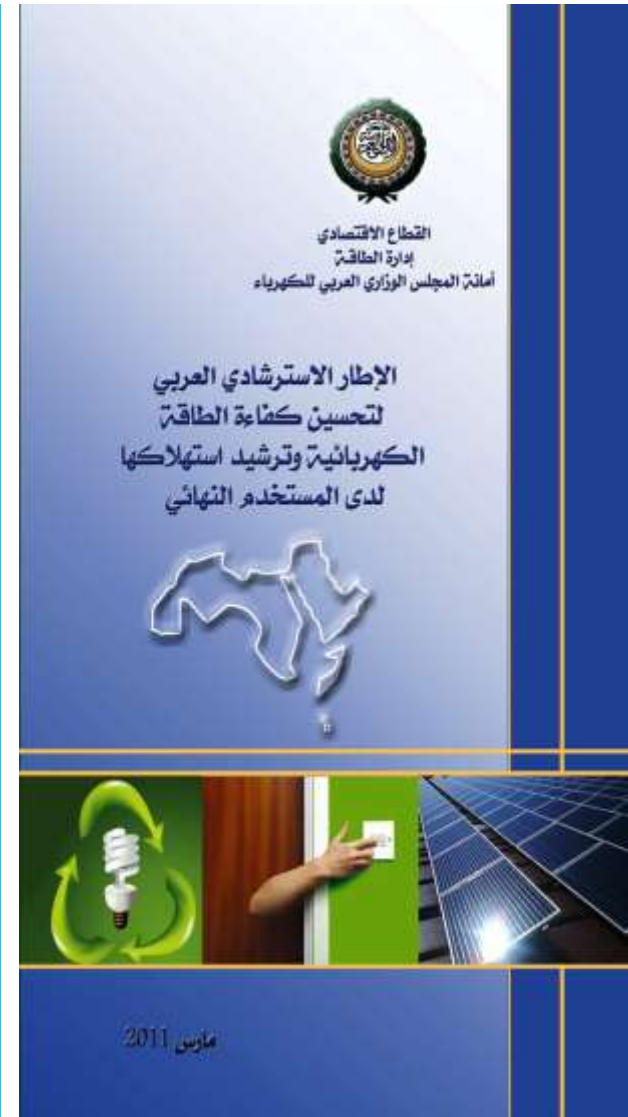
Energy Efficiency National Plans for regional Energy Challenges

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Supported by the Federal Ministry for the Environment, Nature Conservation,
Building and Nuclear Safety in Germany



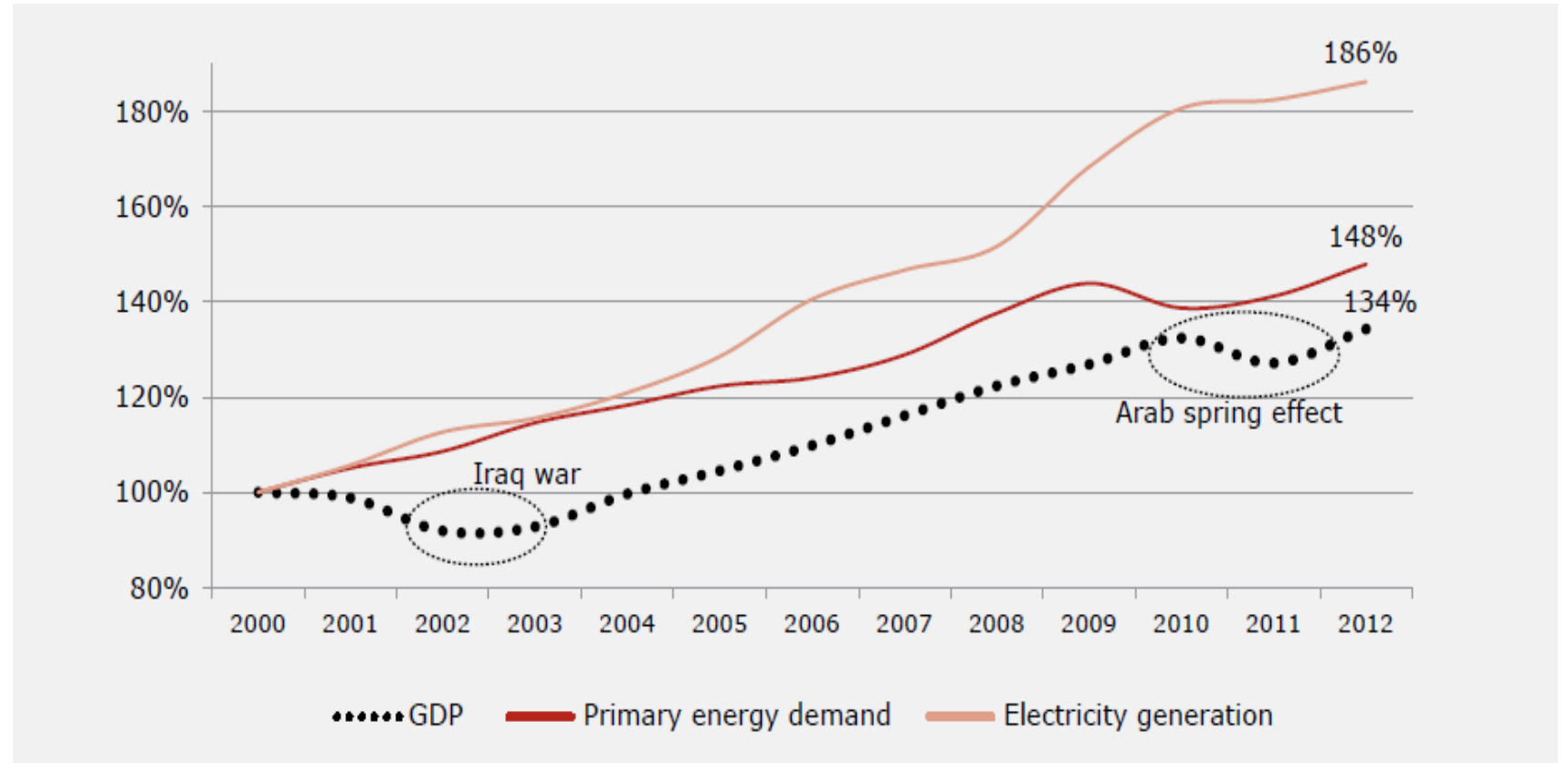
Facts and figures - Energy

- **57.5%** of the oil reserves and **27.3%** of the gas reserves Secure **24.5%** of the world demand of oil and gas
- **6** Arab states consumes **75%** of the total consumption in the Arab region
- **94%** of the energy demand is being met by oil and gas
- **30%** of the Arab states imports **90%** of their energy needs
- **3.6%** is the annual growth rate

Facts and figures - Electricity

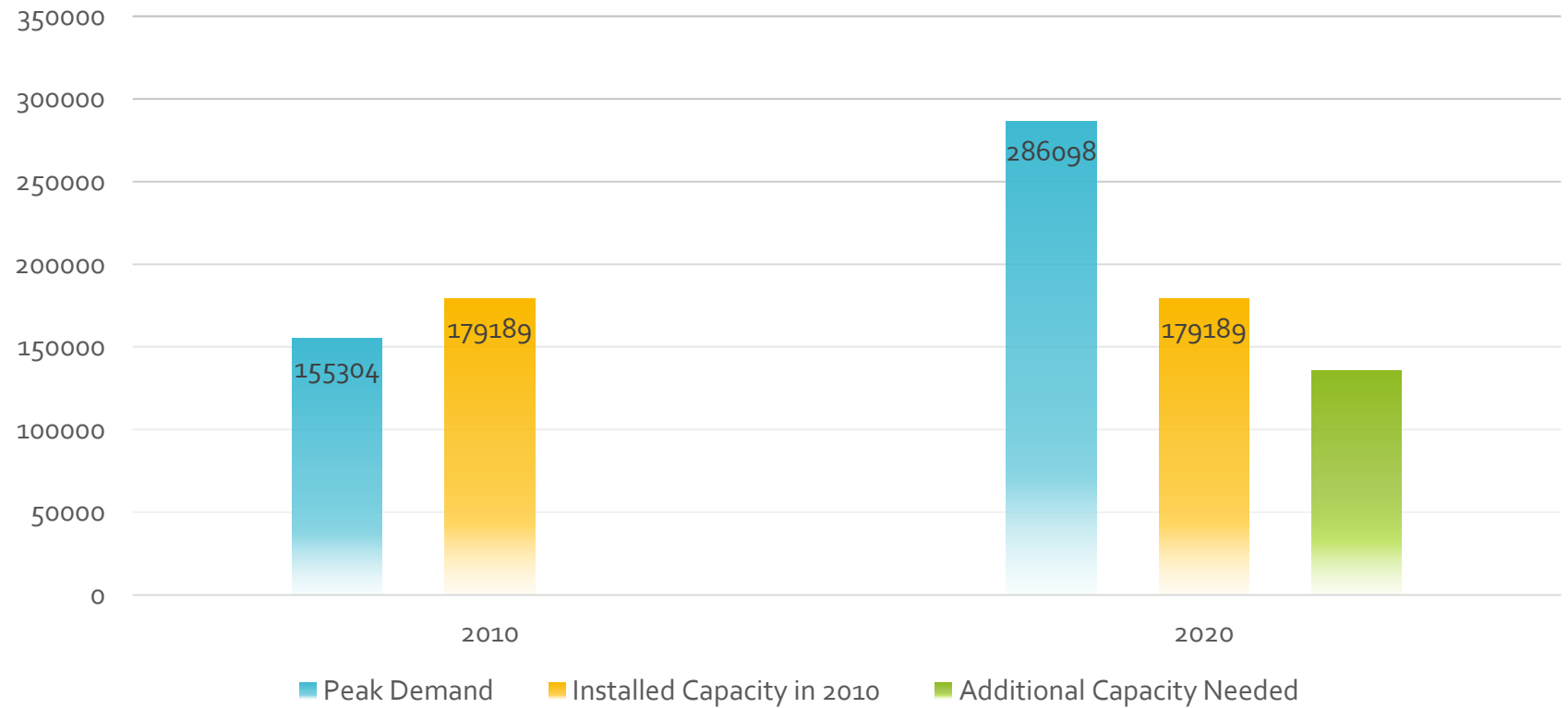
- **60%** of the Arab countries have electricity shortages
- **35%** is the average efficiency of power generation
- **22%** is the average losses in the Arab Electricity transmission and distribution networks
- Electricity consumption per capita goes from **15650 kWh/year in Qatar to 285 kWh/year in Sudan**
- **7.5%** is the average annual growth rate

Energy-GDP Decoupling



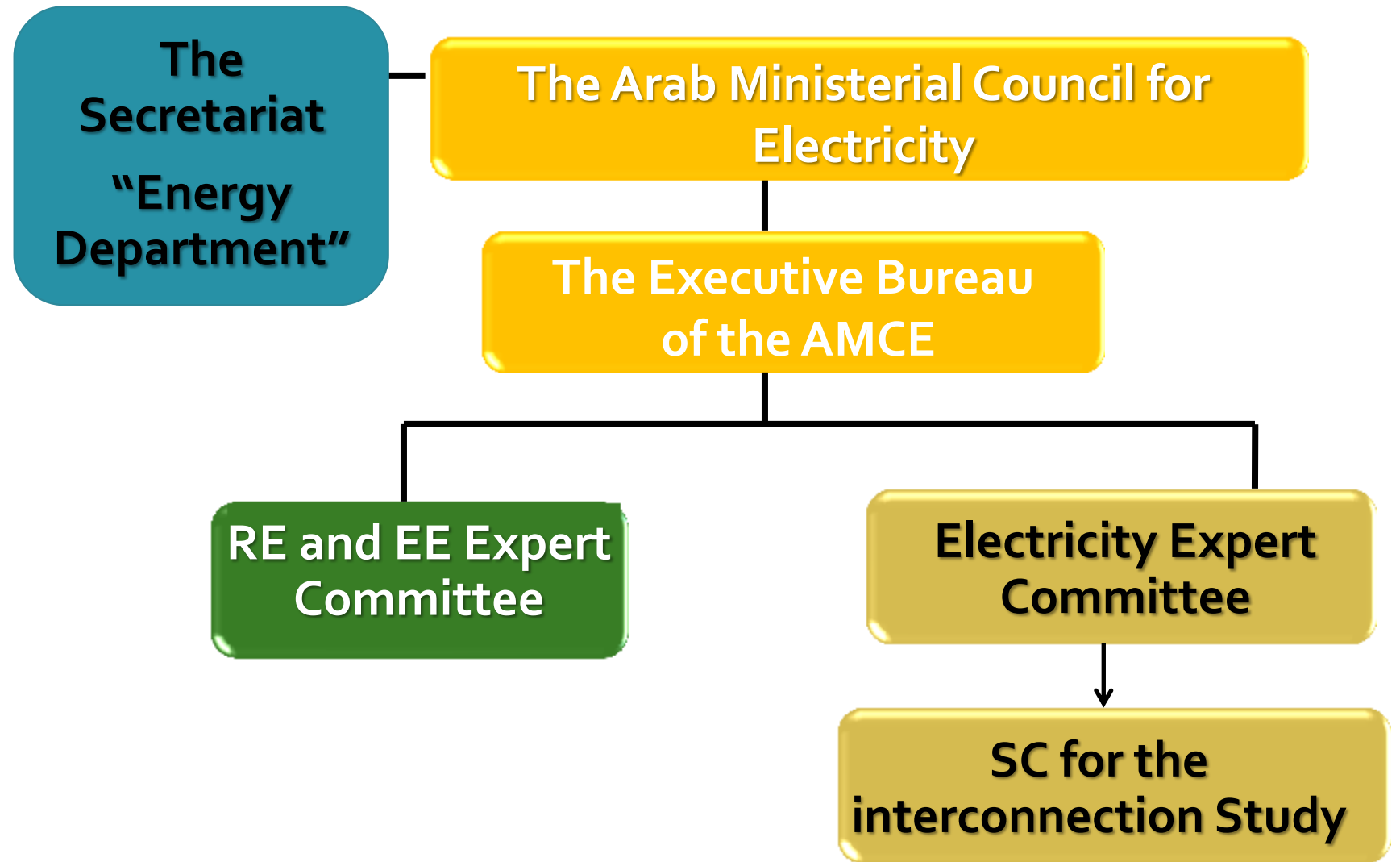
**ECONOMY 34%, ENERGY 48%,
ELECTRICITY 86%**

Electricity Consumption Patterns in the Arab Region



84% INCREASE COSTS 420 BILLION USD BY 2020

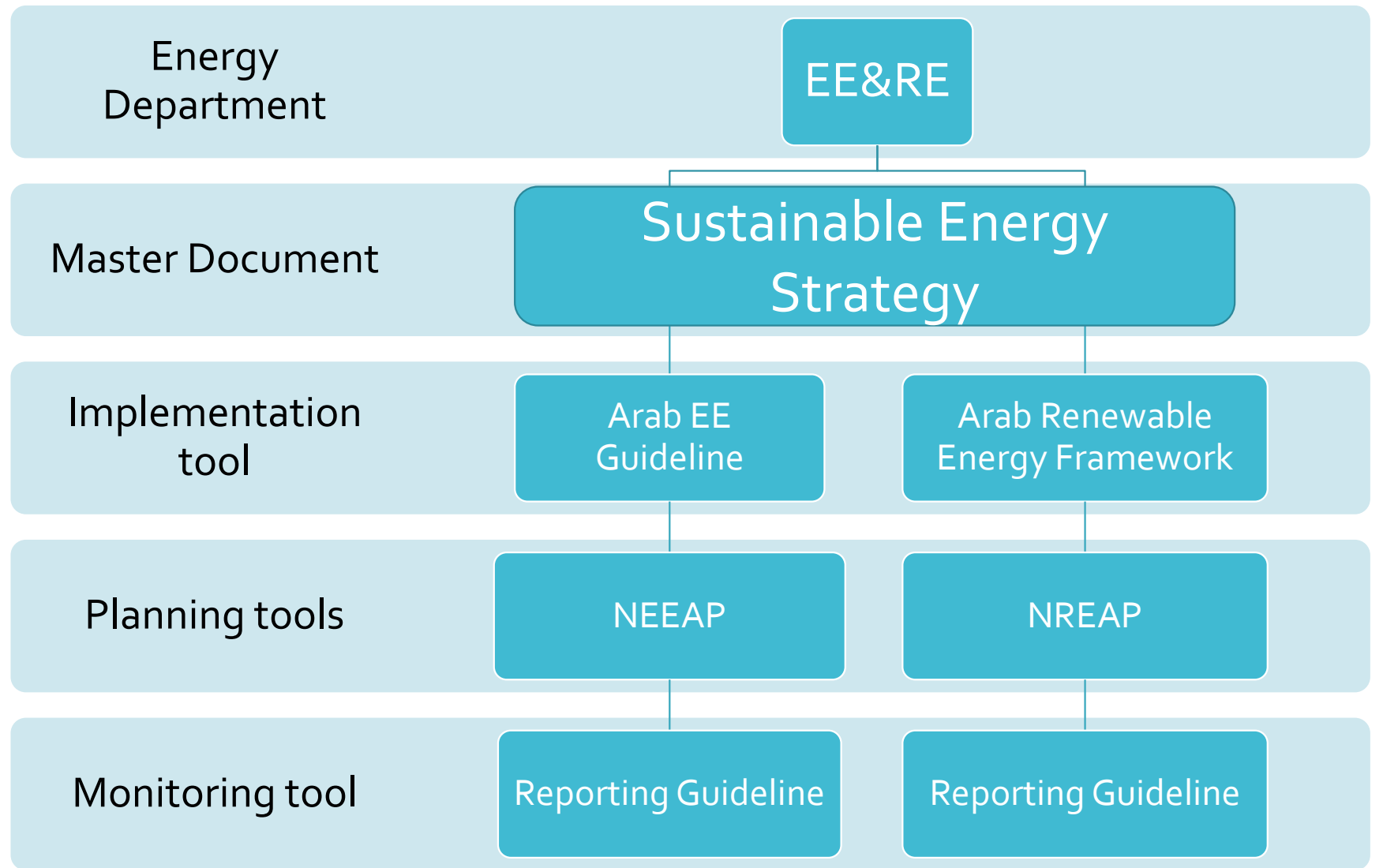
Organizational Chart of Arab Ministerial Council of Electricity



Managing Consumption Areas for the Arab Countries

- *Control demand growth rate*
- *Increase energy system efficiency*
- *Improve energy consumption patterns*
- *Energy diversity*

RE&EE
Regional Policy
Reform
Structure



The Arab End Use Electricity Efficiency Improvement and Conversation Guideline

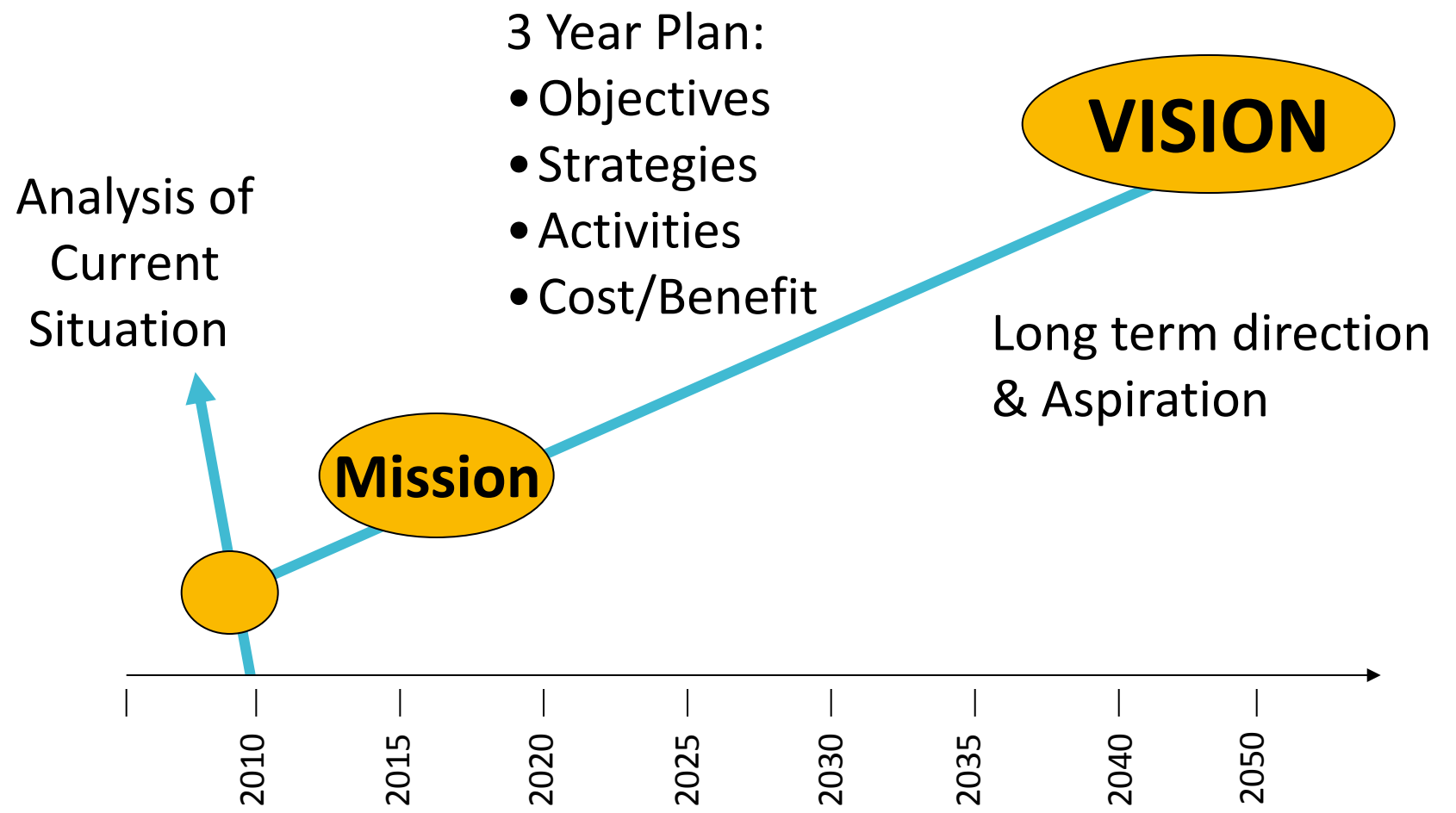
The Arab End Use Electricity Efficiency Improvement and Conversation Guideline were approved by the executive office of the Arab Ministerial Council of Electricity in the decision no. 195 taken in the 26th meeting held in 23 November 2010.



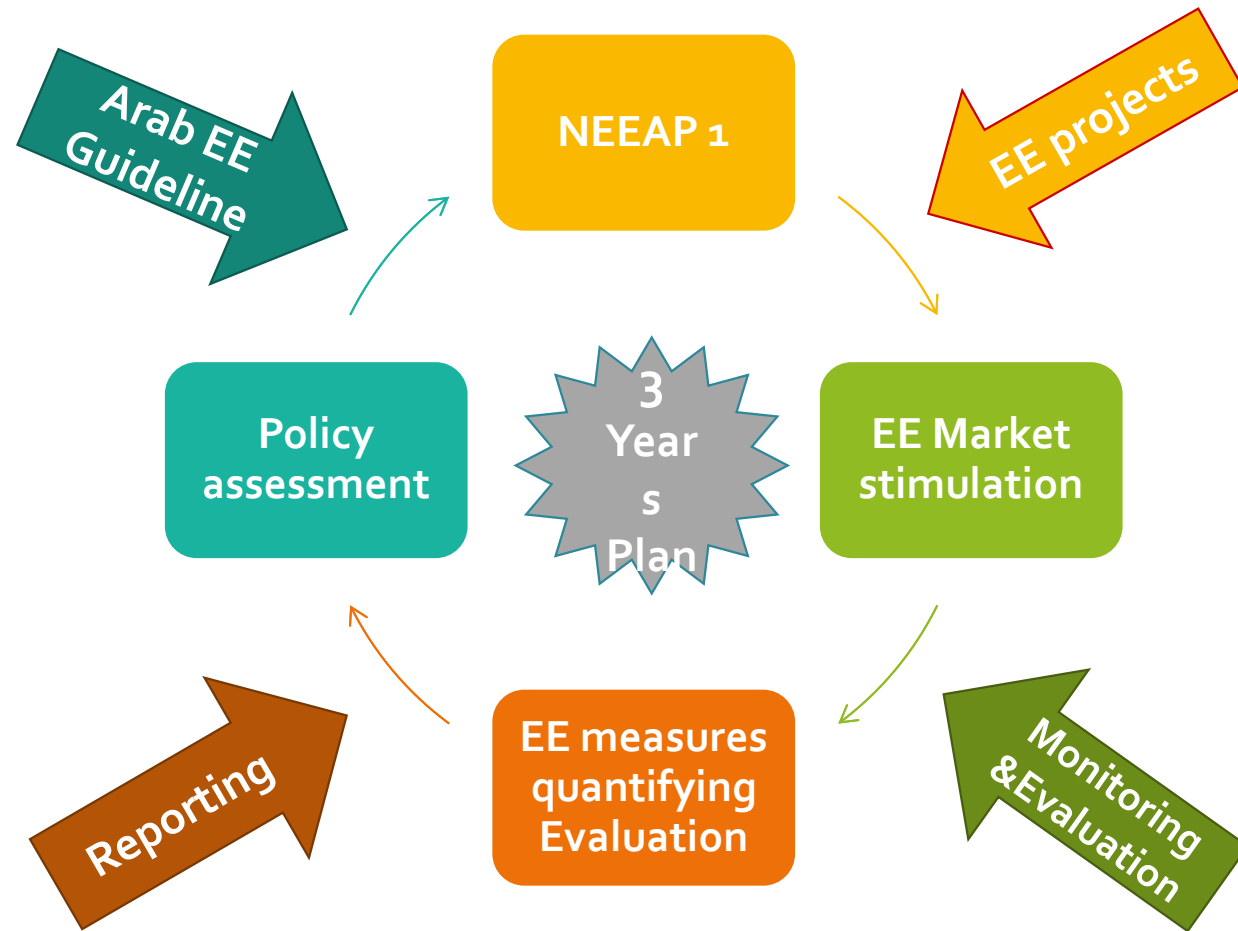
Policy Cycle within the Arab EE Guideline



Planning Scheme



Effective EE Policy Dynamics

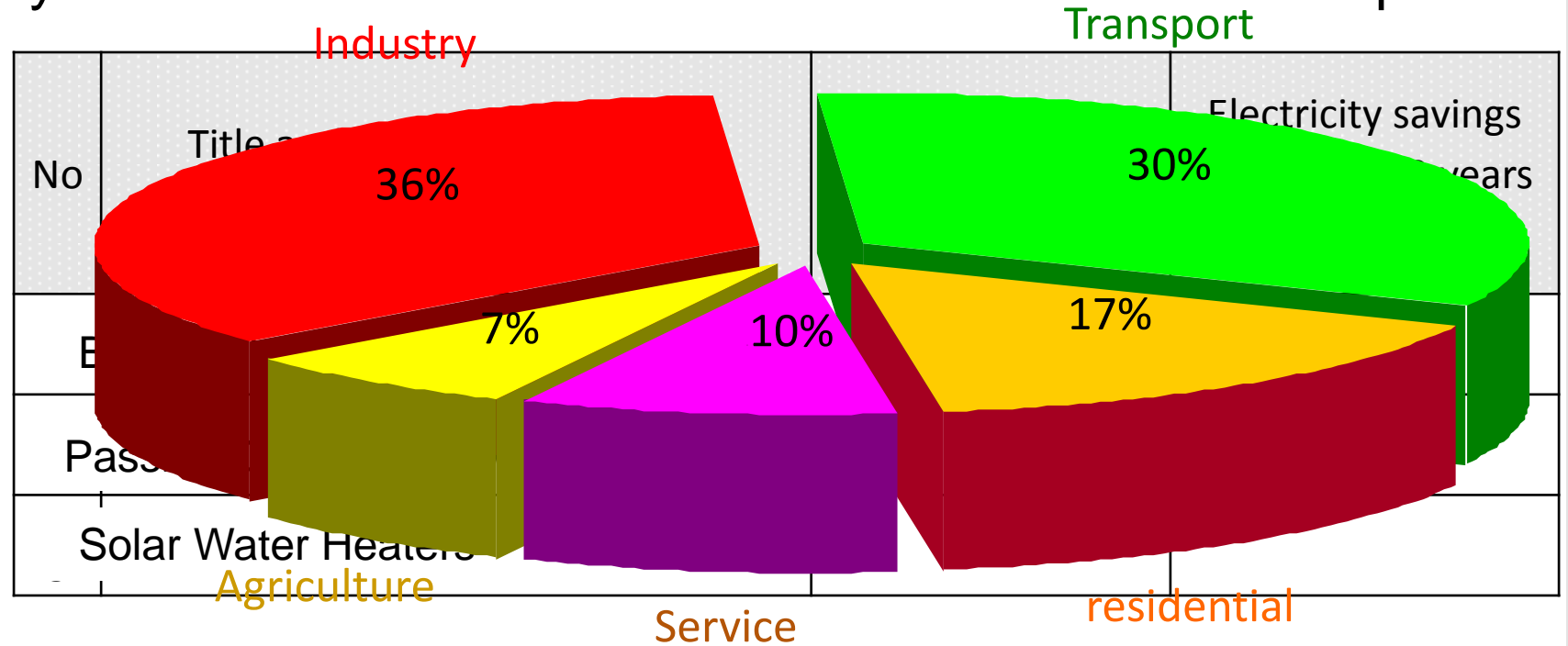


Contents of the Template

- Overview : Overall national indicative target
- Sectorial presentation : Energy Efficiency measures
- Additional measures
- Horizontal and cross-sectorial measures
- Criteria to assess energy efficiency policy

Sectorial presentation
Energy Efficiency measures

Residential identified according to electricity distribution by sector
 Overview table of all European utilities annual reports



Arab EE
Guideline was
the changing
point for EE
planning in the
Arab region

The collage features several key elements:

- Top Left:** Logo of the Arab League and text in Arabic: "الإطار الاستراتيجي العربي لتحسين كفاءة الطاقة لتزويد المستهلك النهائي لدى المستهلك النهائي".
- Top Center:** Logo of the Arab League Energy Center with the text "مركز الطاقة العربي للتعاون".
- Top Right:** A bar chart titled "Cumulative target in GWhr set and calculated accordance to annex A" showing increasing energy efficiency measures over time.
- Middle Left:** A horizontal timeline of NEEAP implementation from 2011 to 2013:
 - 2011: Real NEEAPs for Lebanon & Tunisia
 - 2012: Real NEEAPs for Palestine, Egypt, Sudan & Jordan
 - 2013: Real NEEAPs for Libya, Algeria, Bahrain & Yemen
 - Timeline for Iraq, Kuwait, Djibouti, and Mauritania.
- Middle Right:** A diagram showing energy efficiency measures: Peak Clipping, Conservation, and Load Building.
- Bottom Left:** A vertical timeline of implementation steps:
 - Preparing a 3 years plan (NEEAP) and law
 - Article 13: Entry into force
 - Involvement Rate
 - Final Draft of NEEAP and law
 - Bylaws & Regulations
 - Implementation
 - Evaluation
- Bottom Center:** A circular diagram showing the process: Policy Implementation leads to EE Measures, which are then quantified and evaluated.
- Bottom Right:** Photos of a meeting and the "Arab Energy Efficiency Day" logo with the Arabic text "اليوم العربي لكفاءة الطاقة".

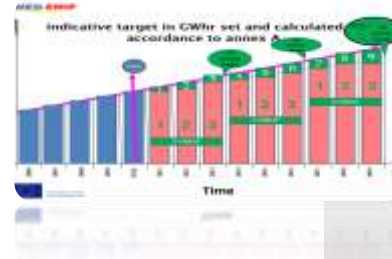
Article 1: Purpose

- (A) The provision of indicative targets, as well as mechanisms, incentives and institutional frameworks, financial and legal measures required to remove the barriers and flaws existing in the market which impede the efficient end-use of energy.
- (B) Creating the appropriate conditions for the development and promotion of a market for energy services in addition to the delivery of other necessary measures to improve energy efficiency to end-users.

Article 3: General Targets

•12 National Targets

Jordan, Bahrain, Egypt, Tunisia, Sudan, Syria, Iraq, Palestine, Lebanon, Libya, Qatar, Kuwait,

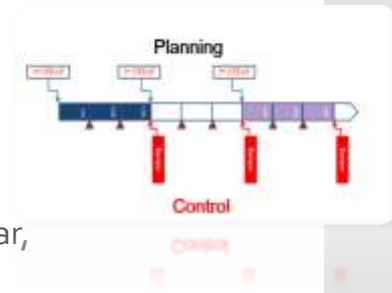


•17 National Assigned Responsible Entities

Jordan, Bahrain, Algeria, Egypt, Tunisia, Sudan, Syria, Iraq, KSA, Palestine, Lebanon, Libya, Qatar, Kuwait, Morocco, Djibouti, Yemen

•18 NEEAPs progress in different stages

Jordan, Bahrain, Algeria, Egypt, Tunisia, Sudan, Syria, Iraq, KSA, Palestine, Lebanon, Libya, Qatar, Kuwait, Morocco, Djibouti, Mauritania, Yemen



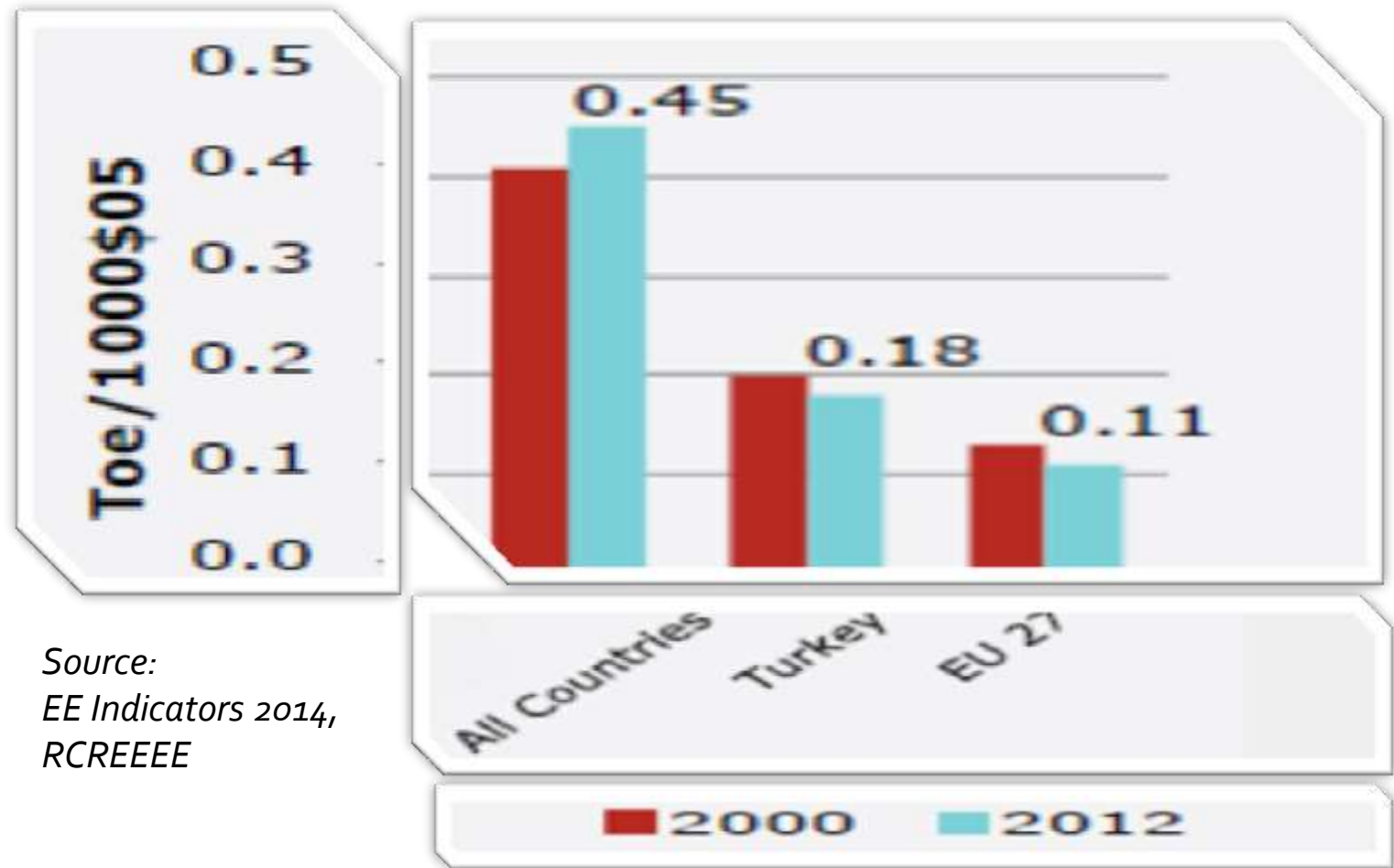
•11 Courtiers used the NEEAP template

Jordan, Bahrain, Algeria, Egypt, Sudan, Syria, Iraq, Palestine, Lebanon, Libya, Qatar.



APPROXIMATE SAVINGS TILL END OF 2014 IS 4000 GWH

Consumption Patterns in the Arab Region – Energy Intensity

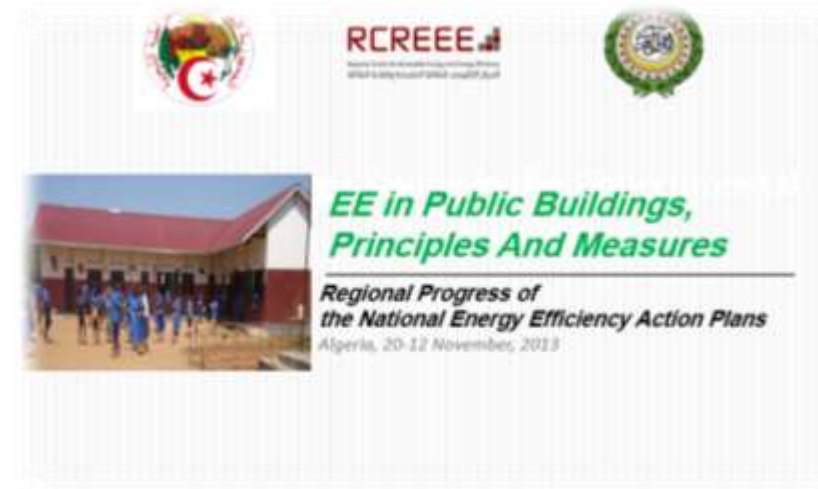


Source:
EE Indicators 2014,
RCREEEE

**1 UNIT OF GDP CONSUMES 75% MORE
ENERGY THAN IN EU**

Article 4: Exemplary role of the public sector

- 8 countries planned for EE measures directed to the public sector, and most commonly focused on:
 - Governmental Building
 - Street Lighting
 - Efficient Lighting Systems
 - Energy Audits
 - Water Pumping System
 - Power Factor Correction



Article 5: Utilities Role

- **ONLY 4** countries planned for utilities based measures and role in NEEAP support, implementation and evaluation

Sudan, Egypt, Lebanon and Yemen

Article 6: Availability of Information



Article 7: Qualification, accreditation certificates schemes

Article 8: Financial Mechanisms

- No real measures were realized rather than EUREM in Egypt for energy managers certification, building related certifications in UAE, KSA and Tunisia and ESCO eligibility in UAE, Lebanon and Tunisia

Country	
Algeria	National Fund for Energy Conservation (FNME)
Jordan	Jordanian RE&EE Fund (JREEEF)
Lebanon	National EE&RE Action (NEEREA)
Morocco	Energy Development Fund
Palestine	Revolving Fund for EE Project
Tunisia	National Fund for Energy Management

Article 9: Electricity Price reform

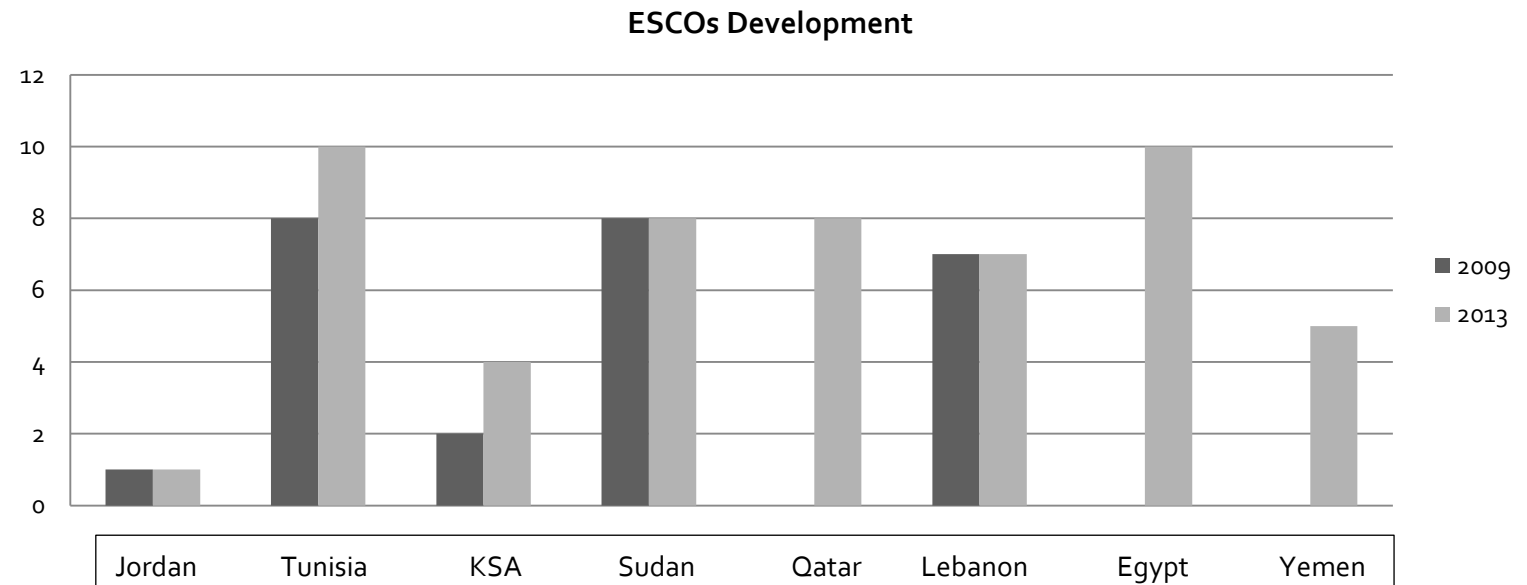
Article 10: Financial Resources

Article 11: Energy Audit

- **7** Arab countries increased electricity prices

Egypt, Jordan, Morocco, Yemen, Sudan, Tunisia, Syria

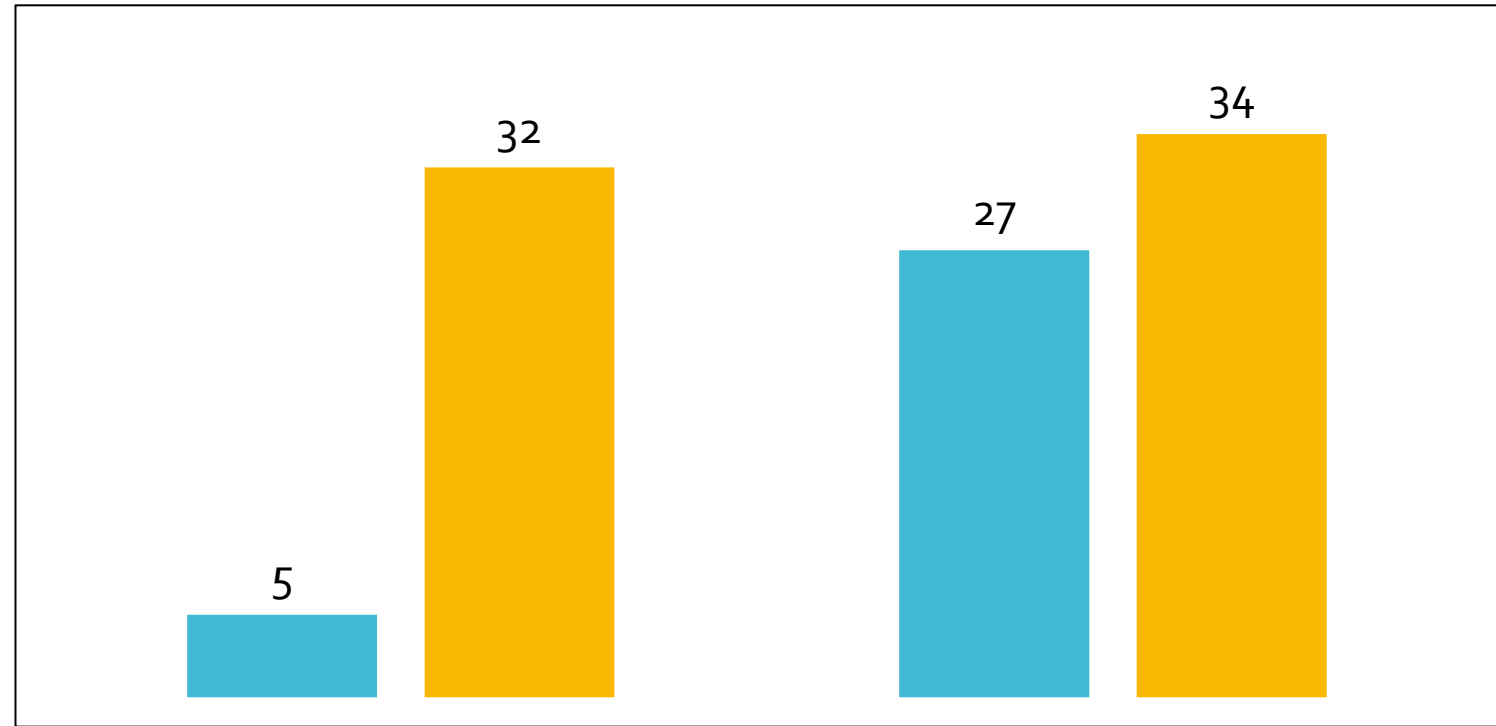
- National financial resources were addressed for EE projects in addition to external funds



Laws and
Regulations
2010 – 2015

Laws
VS
Bylaws

- **16** Countries issued **33** new EE laws and regulations between 2010-2015



Tunisia

Rest of Arab States

Support
Measures and
awareness
campaigns

- 8 countries implemented supportive measures mainly away from awareness campaigns



Bottlenecks



Future Steps

- **New edition of the Arab EE Guideline**
- **EE Reporting Guideline**
- **Savings Calculation methodologies and methods**
- **Training and technical support**
- **Strong players involvement (Utilities)**
- **Use EE financial experiences in Tunisia, Lebanon and Palestine**

Effective mechanisms for energy efficiency

- Start with the low hanging fruits ...and eat them
- Don't put EE activities in one portfolio
- Plan for it starting from the energy consuming sectors analysis
- The government is more in charge rather than the consumer
- Laws are not enough.....by-laws is more important
- No one is in charge of EE ...alone

Thanks

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Supported by the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety in Germany

Project "Policy dialogue and knowledge management on low emissions development strategies, in particular on renewable energies, in the MENA region"

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