Concept Note

Training Course on
Setting up National and regional agendas for developing EE strategies and policies targeting the building sector

Granada – Spain

6-10 April 2015,
1 **Background:**
Following the successful training courses jointly organized by the League of Arab States and the Euro-Arab Foundation from 2010-2015 on various topics related to Renewable Energy and Energy Efficiency, the idea of addressing the topic of Energy Efficiency in buildings surfaced as the theme of the upcoming training course (April 2015). This crucial step will provide a platform for exchanging experiences and knowledge transfer on the various ways to increase buildings’ energy efficiency.

2 **Scope:**
The building sector is the biggest energy consumer in the Arab region with percentages fluctuating from about 35% of the total electrical energy consumption in Tunisia to about 70% in most Gulf States\(^1\). These numbers should serve as an important indicator for future energy planning in the Arab region and directly impact the social structure development. Moreover, these statistics display the incremental trend of building and service sector.

On the other hand, the energy consumption of an average Spanish household is 40% lower than the EU. The difference is best explained by its milder climate, which reduces heating needs. Another reason has been the lower equipment rate which all along the 1990’s underwent a remarkable increase, and at present has reached similar levels to the EU average. Progressive equipment, along with other factors, such as the number of households, the increase of the average dwelling surface, explains the increase in the unit consumption in the last years.

Since 2001, a change was reinforced, In 2004 the ODEX shows a continuous improvement with acceleration since 2001 and a progressive convergence with the EU index with similar levels reached in 2010. This trend is mainly the result of the penetration of more efficient equipment in households, as well as of more demanding legislative requirements in the field of energy efficiency in the building sector. The economic crisis reinforced the downward trend of the index.

There has been a series of improvements in the relevant legislation related to the energy efficiency of the building sector, such as the approval of the Technical Building Code (TBC), the revision of the Regulations on Building Heating Installations (RITE), and the approval of the Building Energy Performance Certificate for newly-constructed buildings.

Additionally, there are recent initiatives geared to improve energy efficiency and the penetration of renewable energy in the building sector through Energy Service Companies (ESCOs): IDAE’s Financing Line to Boost Renewable Energies in Buildings through ESCOs (Activation Plan in the State’s General Administration Buildings through ESCOs). Other measures aiming at purchasing

\(^1\) Arab Union of Electricity Statistical Bulletin for 2010
efficient equipment are: the Green Public Procurement Plan; the inclusion of Eco-Design requirements, as approved in RD 1369/2007; and the approval of RD 1890/2008 regulating efficiency requirements in outdoor lighting installations.

In addition, Spain has introduced new law (Real Decreto 235/2013) requiring property owners to obtain energy efficiency certificates before they can sell or rent their homes, in line with other European countries. This FAQ provides basic information on the energy efficiency certificate, and will be followed up with another article on how to take advantage of the certificate and improvements in home energy efficiency.

The Arab Guideline for Improving Electricity Efficiency and Rationalize its Consumption at the End User level has been approved during the 26th meeting of the Executive Bureau of the Arab Ministerial Council for Electricity on 23/11/2010. According to resolution 195, each Arab State shall develop a series of 3 years National Energy Efficiency Action Plan (NEEAP) and shall take the necessary measures to improve energy efficiency to achieve a set of projected EE targets by 2020.

As of now, 9 Arab countries have officially adopted their NEEAPs with all successful measures related to building sectors included. This clearly portrays the commitment of the Member States in increasing the buildings’ efficiency. Nevertheless, all measures related to the building sector are facing major barriers at the implementation phase. Most of the Arab countries have already issued EE buildings codes but with no effective implementation procedures or measured impact.

3 Objective:
The overall objective of this training course is to transfer the European knowledge of EE in building in terms of planning, management, implementation, monitoring and evaluation to the Arab States. This aims to enhance the implementation of EE building codes, and the EE buildings measures listed in the NEEAPs.

4 Organizational arrangements

4.1 Organizers:
- League of Arab States (LAS)
- Euro-Arab Foundation for Higher Studies
- Regional Center for Renewable Energy and Energy Efficiency (RCREEE)
- Euro-Mediterranean Project for Energy Efficiency in the Construction Sector (MED-ENECE)
- United Nation Economic and Social Commission for Western Asia (ESCWA)

4.2 Date and location:
- Duration: 5 days training course
- Date: 6-10, April, 2015,
- Venue: Euro-Arab Foundation premises in Granada – Spain,
4.3 **Level and Target Group:**

- This training course is an advanced training designed for policy makers, planners and senior professionals who are involved in formulating and implementing EE planning and strategy.
- Estimated number of participants is 20 to 25 participants representing the Arab states and the organizers.

5 **Outline of Training main themes:**

As stated in the objective, the training course targets *policy makers, planners and senior professionals* who are involved in formulating and implementing *EE planning and strategies in the building sector*. As such, it will focus on the policies aspects related to EE in the building sector; especially their design and implementation process, and provide a brief overview of technical instruments and tools that should be implemented to achieve the policy goals.

The following section provides a brief presentation of the main themes to be covered by the workshop and the next chapter provides an outline of the draft agenda for the training.

(a) The workshop shall cover in the 5-days time-frame the high priorities for the region in terms of EE policies for the building sector that are shared by most countries in the region, and therefore will not expand on introducing the importance of the sector in the region, nor presenting a detailed outlook of very advanced building technologies such as zero energy buildings.

(b) High priorities for the region in terms of EE policies for the building sector can be outlined as follows:

- Addressing EE in the existing building stock through the implementation of substantial masses of very relevant, and easily achievable, EE measures targeting all types of buildings and through tailor made EE measures specifically targeting energy intensive buildings.
- Addressing EE in the new buildings through the implementation / reinforcement of energy performance building codes for all types of new buildings and specific energy performance requirements for energy intensive buildings, such as airports, large commercial and office buildings, etc.
- Addressing energy performance requirements of building energy systems and equipments, through energy performance labeling and MEPS (lighting, heating, cooling, etc.).
- Addressing energy performance requirements of common household appliances through energy performance labeling and MEPS (refrigerators, room air conditioners, televisions, washing machines, etc.)
- Addressing the state of knowledge of energy consumption patterns in the building sector through the implementation/reinforcement of systematic and sustainable statistical data collection of end use energy consumption patterns per energy source
for each of the main building branches, and the definition and monitoring of relevant key energy performance indicators.

- Addressing the human and financial resources required, and the time delays involved in mobilizing the required resources and insuring the capacity building needed to qualify the different relevant actors.

Short term, midterm and long term strategies and action plans should be considered to deal with each of the issues mentioned above, taking into account the urgency of addressing certain building energy performance emergencies, and the possible rate of mobilizing the required human and financial resources.

(c) This workshop is also an opportunity to:

- Establish, at the regional level, a common understanding of building energy efficiency issues,
- be informed about best practices in building EE policy development and implementation in the Arab region, the EU and elsewhere,
- be informed about international financing opportunities and ongoing programs to support EE programs in the building sector at the regional and national levels,
- And to outline a common framework for the region to address EE issues in the building sector, which can be discussed at the conclusion of the workshop and formulated in the recommendations to be issued.

6 Training Format and Thematic Draft Agenda:

6.1 Training Format

The training format should allow for extensive discussions and the exchange of views between participants. Each topic should start with a presentation followed by a group discussion to anchor the topic in national experiences and identify national priorities and possible input from regional institutions/organizations to help national processes.

The training shall cover the following themes, discussed earlier, and considered to be a high priority for the region:

- EE in the existing building stock.
- EE in new buildings
- Energy performance requirements of building energy systems and equipments (lighting, heating, cooling, etc.).
- Energy performance requirements of common household (refrigerators, room air conditioners, televisions, washing machines, etc.)
- Knowledge of energy consumption patterns and records in the building sector
- Human and financial resources required, and time frame for implementing the designed policies
Short term, midterm and long term strategies and action plans should be considered to deal with each of the issues mentioned above, taking into account the urgency of addressing certain building energy performance emergencies, and the possible rate of mobilizing the required human and financial resources.

Furthermore, each theme shall be presented while addressing the following issues:

- How to overcome Market barriers
- Systems and component-level policies
- factors for the design and implementation of effective policies
- Prioritization of measures according to targets
- Monitoring and evaluating of implemented EE policies and measures.
- Best practice building EE policies in the Arab region, the EU and elsewhere
- Benefits of the implemented EE policies in Europe and lessons learned

6.2 Thematic Draft Agenda

**DAY 1:**

*Morning Session:*

**I-Topic 1 (Introduction): Importance of the building sector in the Arab region energy context**
- The importance of the building sector in the energy system at international and regional level
- Characteristics of the sector and factors influencing building energy consumption
- Future trends & energy stakes of Building sector in the region
- Key indicators and Benchmarking

**II- Topic 2: Overview of current consumption patterns and EE potential in the building sector:**
- Overview of final energy consumption patterns in the building sector by energy source and by end-use in the region (Synergy between the building and the electricity sector)
- Overview of EE potential in the existing building stock
- Overview of EE potential in new buildings
- Economic impacts of EE measures at national and user levels
- Barriers to scaling-up energy efficiency in Building sector in the region
**Afternoon Session:**

**III- Topic 3 EE policies targeting the building Sector: Best practices in policy and planning (Europe and the Arab region)**

- Formulating EE Policies to overcome market failures and barriers
- Cross-sectoral policy recommendations
- Component-level policies
- Systems-level policies
- Criteria such as **relevance, energy savings, ease of implementation, job creation and timeline** for designing and implementing an effective policy
- Ranking EE policies recommendations and how to insure their effective implementation.
- Monitoring and evaluating of the implemented EE policies and measures.
- Overview of the EE policies targeting the building sector in Europe
- Benefits of the implemented EE policies in Europe and lessons learned

**DAY 2:**

**Morning Session:**

**IV- Topic 4: Improving the EE in the existing building stock**
Objective, methodological approach, components, best practices, experience in the region, Europe and elsewhere

**IV.1 Bundling EE measures for all types of buildings (2 presentations / lectures)**

- Implementation of substantial masses of very relevant, and easily achievable, EE measures targeting all types of buildings
- Approach for designing and implementing effective policies and programs
- Identification of main stakeholders and the need for their involvement in the policies and programs development process
- Key relevant actors and their role in the implementation process
- Implementation mechanisms and instruments
- Required human resources and capacity building needs
- Associated MRV requirements

**IV.2- EE Programs designed for energy intensive buildings (2 presentations / lectures)**

- Implementation of tailor made EE measures specifically targeting energy intensive buildings
- Approach for designing such programs
- Identification of main stakeholders
- Key relevant actors and their role (Energy auditors, ESCOs, etc.)
Implementation mechanisms and instruments (Energy audits, Energy Management System, etc.)
✓ Required human resources and capacity building needs
✓ Associated MRV requirements

Afternoon Session:

V- Topic 5: Addressing EE in New buildings
Objective, methodological approach, components, best practices, experience in the region, Europe and elsewhere

V.1 EE Building codes for all types of buildings (2 presentations / lectures)

➢ Design, development and implementation of building energy performance codes for new buildings targeting all types of building with specific requirements relatives to each branch of the building sector
✓ Approach for designing such programs (Prescriptive and performance based approaches)
✓ Identification of main stakeholders and the need for their involvement in the policies and programs development process
✓ Key relevant actors and their role in the implementation process
✓ Implementation mechanisms and instruments,
✓ Building energy performance Compliance Tools
✓ Required human resources and capacity building needs
✓ Associated MRV requirements

DAY 3:

Morning Session:

VI- Topic 6: Addressing energy performance requirements for building energy, components and appliances
Objective, methodological approach, components, best practices, experience in the region, Europe and elsewhere

VI.1 Energy performance requirements of building energy components and equipments (2 presentations / lectures)

➢ Design, development and implementation of energy performance labeling and MEPS for building energy systems and equipments (lighting, heating, cooling, etc.)
✓ Approach for designing such programs (Prescriptive and performance based approaches)
Identification of main stakeholders and the need for their involvement in the policies and programs development process
✓ Key relevant actors and their role in the implementation process
✓ Implementation mechanisms and instruments,
✓ Required human resources and capacity building needs
✓ Associated MRV requirements

Afternoon Session:

VI.2 Energy performance requirements of common household appliances (2 presentations / lectures)

- Design, development and implementation of energy performance labeling and MEPS for common household appliances (refrigerators, room air conditioners, Lighting, TV, etc.)
  ✓ Approach for designing such programs
  ✓ Identification of main stakeholders and the need for their involvement in the policies and programs development process
  ✓ Key relevant actors and their role in the implementation process
  ✓ Implementation mechanisms and instruments,
  ✓ Required human resources and capacity building needs
  ✓ Associated MRV requirements

DAY 4:

Morning Session:

VII- Topic 7: Addressing the state of knowledge of energy consumption patterns in the building sector (2 presentations / lectures)

Objective, methodological approach, components, best practices, experience in the region, Europe and elsewhere

Design, development and implementation / reinforcement of systematic and sustainable statistical data collection of end use energy consumption patterns per energy source for each of the main building branches, and the definition and monitoring of relevant key energy performance indicators

✓ Approach for designing such programs (Residential end-use, public buildings end-use, commercial and office buildings end-use)
✓ Identification of main stakeholders and the need for their involvement in the policies and programs development process
✓ Key energy performance indicators and analytical tools
✓ Key relevant actors and their role in the implementation process
✓ Implementation mechanisms and instruments,
✓ Required human resources and capacity building needs
**Afternoon Session:**

**VIII- Topic 8: Addressing the financial and human resources required, and the time delays involved in mobilizing the required resources and insuring the capacity building needed to qualify the different relevant actors (2 presentations / lectures)**

Objective, methodological approach, components, best practices, experience in the region, Europe and elsewhere

- Short term, midterm and long term financial and human resources required to carry out the national EE policies strategies in a sustainable manner.
  - Approach for developing the assessment of such requirements for both the public and private sectors
  - Identification of possible national resources
  - Identification of possible international resources
  - Key relevant actors in the financing process
  - Key relevant actors in the human resources mobilization and capacity building processes
  - Financial implementation mechanisms and instruments,
  - Logistical implementation mechanisms and instruments

**DAY 5:**

**Morning Session:**

**IX- Topic 9: Regional and international support for building EE policies and programs**

**IX.1 Existing / Potential regional and international programs for channeling support to EE in the building sector**

- Presentation of existing and potential *regional and international* programs for channeling support to EE in the building sector (Brief presentations by relevant representatives of regional / International institutions)
  - Support at regional level (LAS, ESCWA, RCREEE, MED-ENEC, etc.)
  - Support at international level (UNEP, GEF, SE4ALL, etc.)
  - Potential financing resources and requirements

**IX.2 Recommendations and the way forward**

- Recommendations regarding regional support and coordination of EE policies and programs in the building sector (Group work and general discussion)