



Economic and Social Commission for Western Asia (ESCWA)

Capacity Building Workshop on: “Integration of Renewable Energy Resources in the Transmission and Distribution Networks in the Arab Region” Amman, 2-3 September 2015.

INFORMATION NOTE

ESCWA through the Sustainable Development Policies Division (SDPD), Arab Union of Electricity (AUE) and National Electricity Company NEPCO in Jordan, will implement a training workshop on the “Integration of Renewable Energy Resources in the Transmission and Distribution Networks in the Arab Region” in Amman/Jordan, on 2-3 September 2015, at NEPCO Headquarter.

1. BACKGROUND

The Arab region has a high potential of renewable energy resources (particularly solar and wind). For long-term planning, most Arab countries have announced RE targets. RE target in any country is significant as it represents a key first step towards maximizing RE uses and it reveals political commitment to future utilization of RE resources. Integration of RE Resources into electrical grids is very crucial in realizing RE targets and pushing large scale RE projects particularly solar and wind. Achieving touchable growth in electrical RE generation in the Arab region is often come with concerns regarding their integration with electrical grids and the additionally related investments to maintain grid security, reliability and operability. Alleviating these concerns requires proper understanding of the possible impact of RE production variability (mainly) on installed capacity, reserve requirements, frequency and voltage control, system stability, demand fluctuations, network operation and control. On the other side, integration of RE with electrical grids enhances electrical energy security at national and regional levels and provides social and environmental benefits.

As a result, the Arab Union of Electricity (AUE) has requested from ESCWA to collaborate in organizing a training workshop for engineers from Arab countries on “Integration of Renewable Energy Resources in the Transmission and Distribution Networks in the Arab Region” (reference 25/E/15/9, date 5/2/2015). Accordingly, it was agreed to organize a training workshop to build the capacity of government officials from Arab countries on the issues related to RE integration with electrical networks.

2. Workshop Objectives and Expected Accomplishment

The workshop is expected to focus on: RE technologies for electricity generation (PV, CSP, wind, hydro and biomass) - Key issues of RE integration with electricity grids - Opportunities and challenges of RE integration – Regulatory framework of integration RE resources - Approach & technical, institutional and economic requirements for RE integration – Regional electricity market –

Case studies and lessons learnt – The way forward to develop integration of RE Resources in the Transmission and Distribution Networks in the Arab region.

The main objective of the workshop is to Increased technical capacity of the Ministries and Utilities of Electricity to Integrate RE in Electrical Networks: Transmission and Distribution Networks in the Arab Region

The outputs of the workshop are the following:

- The participants will have an opportunity to identify the obstacles/difficulties facing integration of RE resources in electrical grid and how to overcome.
- The participants will gain technical, regulation and institutional skills on integration of RE resources in electrical networks.

3. Participants

The target countries are the Arab countries, and the beneficiaries are the concerned government officials nominated by the Ministries of Electricity and Energy and concerned organizations in the Arab Countries, with a profile of engineers.

The number of participants will be about 25-30 participants from Arab countries. The proposed Languages are Arabic and English.

To maximize the benefit and to exchange the experience among Arab countries, it was decided to invite experts from concerned ministries/utilities/grid operators and regulators in the Arab countries; and regional projects, academia and initiatives as well.

- The workshop will train participants on “Integration of Renewable Energy Resources in the Transmission and Distribution Networks in the Arab Region”, they will recognize the main characteristics of RE resources and their integration in the electrical network;
- The participants will acquire knowledge on requirements of RE integration in electrical networks based on win-win approach for all stakeholders;
- The participants will be exposed to case studies and lessons learnt on RE integration in electrical networks.
- The participants will be awarded attendance certificates.