

Information Note

Training Course on

Smart Grids and the integration of RE projects

25-30 April 2016, Granada – Spain

1 Background

The League of Arab States (LAS), the Euro-Arab Foundation and the Regional Center for Renewable Energy and Energy Efficiency (RCREEE) is organizing jointly, a training course focusing on smart grids and the integration of RE projects into the national grids in the Arab countries.

Within the current situation characterized by significant increase of energy demand (up to 8% annually) and the decline of natural resources, Arab countries adopted an ambitious Renewable Energy (RE) strategies based on appropriate management of natural resources and the diversification of energy supply, where RE share in the energy mix in 2030 targeted different countries will vary from 10 to 52 %.

The Pan-Arab Renewable Energy Strategy 2030, adopted by the Arab Economic and Social Development Summit in January 2013, represents the starting signal and shows a political agreement and commitment to achieve national and regional goals. The implementation of this sustainable development strategy and the increasing of RE contribution at regional electricity markets are creating new challenges and a growing need for drawing a well-defined strategy and planning and an appropriate action plan to accelerate RE deployment and to achieve their agreed targets for the year 2030.

Moving forward and in order to ensure the proper implementation of this strategy and support Arab countries in the achievement of their planned objectives, the Energy Department of the League of Arab states in cooperation with RCREEE developed a regional process "the Arab Renewable Energy Framework" (AREF) and the template for the National

Renewable Energy Action Plans (NREAP) adapted to Arab countries context. The NREAP describes necessary measures and steps followed by countries to meet their target.

As the main mission of the Euro-Arab Foundation for Higher Studies (EURAD) is to create a space for dialogue and cooperation between the European and Arab countries and to enhance experience and knowledge exchange and transfer, and as EURAD played also an important role in the promotion and the dissemination of RE and EE actions and the organization of capacity developments activities;

LAS, EURAD, ESCWA and RCREEE planned a training course to address one of the most important issues related to integrate RE projects into the energy system and power grids at the national and regional level. This training course will discuss the obstacles of RE share increase in a traditional power system and the characteristics for future power systems.

2 Objective

The training course aims to build the knowledge and skills of professionals to support the smooth integration of RE projects into the grids and mainstreaming variable generation in power markets. It will help understanding the requirement each country needs to meet to smoothly achieve RE targets and how to shape future sustainable energy systems.

Participants will also learn about tools and processes for grid development, upgrade and management to deal with different and unstable energy supplies, and the policy innovations to integrate growing shares of renewables

Experiences based on European RE share increase and Spain experiences in particular will be presented in depth showing the strength and weaknesses as well as the impact on RE grid integration.

Gaining these knowledge and skills will provide an overview of the fundamental elements to monitor, dispatch and control decentralized generation and its Implications for operations.

3 Logistic arrangement

3.1 Organizers:

- League of Arab States
- Euro-Arab Foundation for Higher Studies
- UN Economic and Social Committee for Western Asia
- Regional Center for Renewable Energy and Energy Efficiency
- German International Cooperation Agency (GIZ) (tbc)

3.2 Date and location:

- Duration: 5 days training course
- Date: 25-30 April, 2016
- Venue: Euro-Arab Foundation premises in Granada – Spain,

3.3 Level and Target Group:

This training course is an advanced training designed for RE policy makers, grid operators, TSO and senior professionals who are involved in formulating and implementing RE systems expansion.

4 Content

As renewable energy is now an integral and growing part of Arab countries energy mix, the course will introduce common steps, processes and skills needed to implement RE strategies and to establish a good planning and a clear RE national action plans.

The five days training course will cover the following topics:

- Power Systems of the Future – Addressing the variability of wind and solar
- Distributed generation and grids – Implications for operations and business models
- Real time demand and bidirectional generation
- Renewable Energy Grid Integration and Financial, Governmental & Economic Energy Frameworks
- Grid Integration and Permitting
- How innovations will reshape the electric power sector
- Operational challenges with small-scale generation in regional distribution grids
- Managing distribution grid infrastructures through IT solutions
- Smart Regulation and Strategies for Sustainable Compatibility between Distributed Renewable Generation/Disruptive Technologies and Utilities
- Target markets, regulatory framework and Outlook for Solar and wind energy in Jordan, Egypt and Morocco,

A field visit to one of the dispatch centers dealing with grid management and operation will also be arranged.