

CASE STUDY

Technical Assistance and Capacity Building in Support of USAID

BACKGROUND

As part of its Energy Strategy, the Government of Jordan aims to increase the proportion of renewable energy in Jordan's energy mix from 2% in 2010 to 10% by 2020 – targeting an additional 1,000 MW of wind and 800 MW of solar energy by 2020. Such a target is feasible because of Jordan's ample solar and wind resources - 5 – 7 kWh of radiation per m2 per day plus wind speeds of 7.5 – 11.5 meter/second in some areas. Increased utilization of domestic renewable power would reduce the 96% of energy needs currently met through imported fuels and the 20% of GDP spent on energy imports in 2012.

CHALLENGE

Renewable power faces barriers which vary according to size of the project and the interconnection voltage level. For larger projects interconnecting at transmission voltages the barriers include: lack of planning, operational and testing grid code requirements for renewable projects; lack of familiarity and experience with integrating intermittent renewable power output into grid operations; lack of experience in conducting grid impact studies and assessing third party grid impact studies; capacity and infrastructure limitations on the transmission system; and lack of experience in the testing, certification and commissioning of renewable power projects.

SOLUTION

EPE assisted the USAID Jordan Energy Sector Capacity Building project by collaborating with NEPCO to identify grid requirements for integrating renewables efficiently. EPE supported the integration of the first large-scale renewable project in Jordan and developed testing, operating, and transmission planning requirements for renewable integration into NEPCO's grid codes. EPE developed grid codes based on regional experience for NEPCO, underwent stakeholder review, and trained the TCO team on testing and operating renewables in Jordan, including a live test for a large project. EPE conducted three one-week training sessions to educate the transmission planning team on planning grid codes, focusing on performance requirements for renewable generators and compliance with the grid codes. Templates for data submission and interconnection requests were provided.

CLIENT

Deloitte.

TYPE

Professional Services

SECTOR

Transmission Utilities

ISO

MENA Region

LINE OF BUSINESS

Transmission Planning

SERVICES PROVIDED

- Grid Code and Smart Grid Development

LOCATION

Jordan

COMPLETED DATES

July 2015 - March 2016

REFERENCE

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