

## Activity Brief

### Renewable Energy / Hybrid PV System with Storage

#### Jdaideh Al-Shouf Municipality - The Upper Water Pumping Station

Activity Name	Renewable Energy (PV System)
Lead Partner	NERC/RSS
Supporting Partner(s) if applicable	-
Geographical Scope of Activity	Jdaideh Al-Shouf Municipality - The Upper Water Pumping Station
Budget Line Item	4.1 Implement pilot projects
Budget Amount	JD 40000
Start Date	Q1, 2019
End Date	Q3, 2019

#### SECTION A: ACTIVITY DESCRIPTION

##### 1.1 Activity Summary

A 20 kW<sub>p</sub> Photovoltaic system can be installed on the roofs of the two storage tanks of the water pumping station as Hybrid On-Grid system with storage to power the loads there in addition to enhancing the power quality in the station and to reduce the power losses by the transmission lines.

##### 1.2 Approach to Ensure Community Participation

Utilizing renewable energy technologies for the water pumping station offers a great opportunity to significantly reduce municipalities' energy expenses at a time when many are facing budget difficulties. In this regard, the municipality should build its staff capacities and have training on how they can follow up and maintain installed RE systems. Results of RE energy production could be visible to the Municipality's citizens in order to garner continued community support. These results can be communicated to the citizens through awareness workshops, leaflets, brochures...etc. In addition, citizens are normally eager to see that their local authority is doing its best to preserve natural resources and leads by example showing the great benefit of utilizing renewable energy technologies for its facilities. Where necessary, citizens or communities can be involved in municipality's actions related to renewable energy from the planning phase through participating in meetings, discussions and in taking the right decision. Furthermore, citizens should feel and touch the impact of utilizing Renewable Energy efficiency at their municipality, as this should be positively reflected on the provided services by the municipality towards its community.

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##### **1.3 Gender Mainstreaming Approach & Plan**

A gender mainstreaming approach requires that gender equality issues be raised at each step in any project cycle. In most cases, women capacities related to energy and renewable energy issues are invisible and limited. Enhancing women understanding of renewable energy to run their home appliances & equipment. We think that women need special support and assistance to build their skills and gain the needed knowhow on renewable energy (PV systems); its usage, normal malfunctions, how to maintain it such as cleaning issues and avoid shading it. Gender engagement especially women can be enhanced through the following:

- Ensure equal participation of women in project's meetings and discussions
- Ensure active participation in relevant awareness workshops
- Where possible, to participate in planning and implementation of renewable energy actions (may be soft issues such as design, installation of light equipment such as circuit breakers, electric panels and meters).

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##### 1.4 Activity Objectives & Expected Results

Activities	Objective	Input	Outputs/Measureable Results	Outcomes	Purpose/Impact
Installation of Hybrid PV system with Storage	Deployment of resource efficiency & clean technology practices at the Municipality level and reducing energy cost and reducing accompanying CO2 emission. .	<ul style="list-style-type: none"><li>- Hybrid PV system with storage.</li><li>- Financial resources</li><li>- Municipality technical staff participation</li><li>- Qualified contractors (installers of units)</li><li>- MINARET project management and supervision of activity implementation</li></ul>	20 KWp hybrid PV system with storage are installed.	Around 31,000 KWh of electricity has been produced.	<ul style="list-style-type: none"><li>- Municipalities act as “lead by example” actors</li><li>- Promotion of clean technology/RE</li><li>- Enhancing community awareness on best practices for resource efficiency</li><li>- Contribute to climate change mitigation actions</li><li>- Achieving market transformation towards clean technologies</li><li>- Promoting sustainable development concept at municipality &amp; communities levels</li></ul>

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##### 1.5 Implementation Plan & Time-frame including gender mainstreaming & community participation

Task	Responsibility		Indicator	Tools & Means of Verification	2018						2019				2020			
	Organization	Person			7	8	9	10	11	12	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1. Updating data, if necessary	- RSS/NERC - Municipality Staff	- Eng. shaker Hammad	- Updated sizing if any.	- Updated summary paper/report														
2. Preparation of technical specification and tender documents	- RSS/NERC - Municipality Staff	- Eng. shaker Hammad - Municipality Focal point	- Technical specifications and tender conditions are prepared.	- Tender documents files														
3. Tender announcement, evaluation and awarding	- RSS/NERC - Municipality Staff	- Eng. shaker Hammad - Municipality Focal point	- Announcement in newspaper or other means - One contractor has been awarded	- Evaluation report - Awarding letter														
4. Implementation of the action	- Awarded contractors/installers	- Awarded contractor/installer	- 20 KWp of PV system with storage	- Progress reports														
5. Supervision and monitoring & evaluation	- RSS/NERC - Municipality technical Staff	- Eng. shaker Hammad - Municipality Focal point	- # of corrective actions or variation orders and notes - # of visits	- Progress reports														

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##### 1.6 Communication Plan

- Coordination and communication with Municipality staff and country's focal point to ensure better management of the action implementation.
- Organize meetings; face-to-face, skype, phone calls... etc.
- Share progress reports and MOMs.

#### SECTION B: ACTIVITY BUDGET

The total budget of the action is broken down as follows:

Task	Budget /cost (JD)
1. Updating data, if necessary	1,000
2. Preparation of technical specification and tender documents	1,000
3. Tender announcement, evaluation and awarding	1,500
4. Implementation of the action	35,000
5. Supervision and monitoring & evaluation	1,500
<b>Total</b>	<b>40,000</b>