

**Activity Brief**

**Energy Efficiency  
Street Lighting  
Jdaideh Municipality /Lebanon**

<b>Activity Name</b>	<b>Energy Efficiency- Street Lighting</b>
<b>Lead Partner</b>	<b>NERC/RSS</b>
<b>Supporting Partner(s) if applicable</b>	<b>-</b>
<b>Geographical Scope of Activity</b>	<b>Jdaideh Municipality</b>
<b>Budget Line Item</b>	<b>4.1 Implement pilot projects</b>
<b>Budget Amount</b>	<b>JD 33,000</b>
<b>Start Date</b>	<b>Q1, 2019</b>
<b>End Date</b>	<b>Q4, 2019</b>

**SECTION A: ACTIVITY DESCRIPTION**

**1.1 Activity Summary**

Street lighting system receives its power from both public grid and the private generators network as a backup source because of the frequent power outages and electrical faults in the electrical grid.

Street lighting system is considered as the main energy consumer at the municipality. The annual electrical energy consumption “from the electrical grid only” as an average for the years (2012, 2013 and 2014) “according to the electricity bills which were submitted by municipality was about 58,358 kWh (equivalent to 16,861,333 L.L.). It should be noted that average calculated electricity tariff for street lighting facilities according to the electricity bills for the same mentioned period is (328 L.L./kWh).

However, as there were no bills from the private generators’ companies to be submitted to the assessment team, and while that the operating time for the mentioned two power sources is almost equal (12 hours each), the best scenario is to assume that the annual electrical energy from diesel generators was similar to the consumption from the grid. Therefore, the annual total electricity consumption from both the grid & generators equals to about 116,716 kWh (equivalent to 33,722,667 L.L.).

**1.2 Approach to Ensure Community Participation**

Reducing energy usage in Municipality’s facilities such as public lighting offers a great opportunity to significantly reduce municipalities’ energy expenses at a time when many are facing budget difficulties. In this regard, two main strategies that can be considered with municipal facilities: training of facility managers to ensure energy is not wasted, and retrofitting of main energy consumers to reduce ongoing energy demand. Energy efficiency needs to be easy to undertake for both unsophisticated cities that do not have enough staff knowledgeable in energy management, as well as larger cities that may have energy expertise. Programs also need to produce results in a short run so that communities can see the benefits of

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their actions. Results should 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 improving energy efficiency for its facilities. Where necessary, citizens or communities can be involved in municipality's actions related to energy efficiency from the planning phase through participating in meetings, discussions and in taking the right decision. Furthermore, citizens should feel and touch the impact of improving Energy efficiency at their municipality, as this should be positively reflected on the provided services by the municipality towards its community.

#### **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 efficiency issues are invisible and limited. Enhancing women role especially for household sector is crucial as they normally using and dealing with home appliances & equipment that consume energy including lighting devices. Women need special support and assistance to build their skills on how to purchase, own and use energy efficient equipment. 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 at least simple energy efficiency such as replacing inefficient lamps with efficient ones.

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**1.4 Activity Objectives & Expected Results**

Activities	Objective	Input	Outputs/Measureable Results	Outcomes	Purpose/Impact
Replacing High Pressure Sodium lamps (HPS) 250W with LED fixtures 100W	Deployment of resource efficiency practices at the Municipality level and reducing energy consumption by at least 65% and reducing accompanying CO2 emission.	<ul style="list-style-type: none"> <li>- 100 LED of 100 watt lighting Units with their needed equipment</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>	100 LED units are installed and operational	Up to 80000 KWh energy saving has been realized	<ul style="list-style-type: none"> <li>- Municipalities act as “lead by example” actors</li> <li>- Promotion of efficient and clean technology</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 efficient and 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. Sawzan Bawaresh	- Updated # of units (lamps & ACs)	- Updated summary paper/report														
2. Preparation of technical specification and tender documents, if needed	- RSS/NERC - Municipality Staff	- Eng. Sawzan Bawaresh - Municipality Focal point	- Technical specifications and tender conditions are prepared.	- Tender documents files														
3. Tender announcement, evaluation and awarding	- RSS/NERC - Municipality Staff	- Eng. Sawzan Bawaresh - 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	- 650 lamps are installed and operational - 24 AC units are installed and operational	- Progress reports														
5. Supervision and monitoring & evaluation	- RSS/NERC - Municipality technical Staff	- Eng. Sawzan Bawaresh - Municipality Focal point	- # of corrective actions 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...
- 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	0
2. Preparation of technical specification and tender documents, if needed	500
3. Tender announcement, evaluation and awarding	1000
4. Implementation of the action	30000
5. Supervision and monitoring & evaluation	1500
<b>Total</b>	<b>33000</b>