Introduction

The MENA region initiative as a model of NEXUS approach to renewable energy technologies (MINARET), is developed to address the unique sustainability challenges and opportunities of the MENA region by increasing local and regional sustainability capacities using the synergies between renewable energy technology and energy efficiency, water management and food security.

Objective

The purpose of energy efficiency and Renewable energy (EE & RE) training is to train municipality's staff, charities and the local community on the various EE measures and RE systems that could reduce the electricity bills and how to deal with these systems in practice. One of the main objective of the MINARET project is to build the municipality's resilience to climate change through adopting renewable energy resources and energy efficiency appliances. In order to meet this objective this training course is to be conducted.

Proposed training program

This proposed training program will be a four - day program covering energy analysis and energy Management topics for all types of electric and thermal systems.

The following topics will be covered in the training program:

Introduction to Energy Efficiency

1. Electricity Basics
2. Energy Analysis
3. Where to Focus?
4. Energy Efficiency Measures
5. Financial aspects of energy efficiency

Energy Audit Methodology

1. Introduction
2. Objective of Energy Audit
3. Who performs energy Audits
4. Types of Energy Audits

Energy Efficiency in Heating and Air Conditioning Systems

1. Introduction to Air Conditioning Systems (split units)
2. Conventional Heating methods.
3. Comparison between different methods of Heating.
4. Energy saving methods and case studies.

Electrical Systems

1. Introduction to systems and appliances available at households.
2. Identifying inefficient appliances and finding financially viable alternatives if possible.
3. Potential of energy efficiency for home appliances.

Lighting Systems

1. Introduction

2. Types of Lamps and Applications
3. Factors Influencing Energy Efficiency
4. Energy Conservation Measures

Renewable energy Applications

1. Solar Thermal systems (solar water heaters)
2. Photovoltaics Systems

Case Studies

Present different case studies on energy efficiency improvement at household level.

Expected results

The trainees will be able to execute energy management program in their community's households and Realize the importance of energy efficiency, utilization of renewable energy and the importance of having sustainable energy management actions.

Duration

The duration of the training program will be 4 working day to train up to 30 participants as maximum. This training course will be conducted in three municipalities during the period from Nov. of 2019 to June of 2020 as the table below.

Action Plan & Timeline

Tasks	Time (months)								
	October	November	December	January	February	March	April	May	June
Preparing training course material (EE & RE)									
Energy Efficiency training									
Renewable Energy training (PV system)									
Renewable Energy training (solar thermal system)									

Jordan (Karak Municipality)
Tuinsia (Al monastir Municipality)
Lebanon (jdaidet Al shouf Municipality)