

Economic and Social Commission for Western Asia (ESCWA)

Transitions to Renewable Energy and Sustainable Prosperity in Lebanon: The Role of Municipalities, Education and Future Scenarios for 2030

Prof. Mohamad KHALIL

Mayor of Akkar Atika Municipality

Professor at the Lebanese University-FoE

UN-ESCWA, Beirut – Lebanon, 23 September 2019

Akkar Atika

- Population of 21,000
- Area of 40 km²
- Elevation from 600 to 1,700 m
- 5,000 Houses
- 40% of Akkar Atika is forest
- Eco-tourism
- 45 km from Tripoli
- Voted as “Best Lebanese Village in 2016”, voting organized by L’orient Le Jour.



Akkar Atika

- 3 Cooperatives
 - Agro-food
 - Beekeeping
 - Agriculture
- Health Dispensary
- 5 public schools and 7 private schools



Renewable Energy: Natural Opportunities

- Waterfall

- 70 m height
- Water from December to May
- State land
- Can be used to develop a hydroelectricity project to feed the village with renewable energy



Renewable Energy: Natural Opportunities

- Wind Energy in Akkar
- New project of 226 MW by Hawa Akkar, Lebanon Wind Power, and Sustainable Akkar
- 12 turbines in Kammouaa (Beit Jaafar, Fneidik and Akkar Atika)
- 2+ MW by each turbine
- Economic Development for the area



Renewable Energy: Small Projects in Akkar Atika

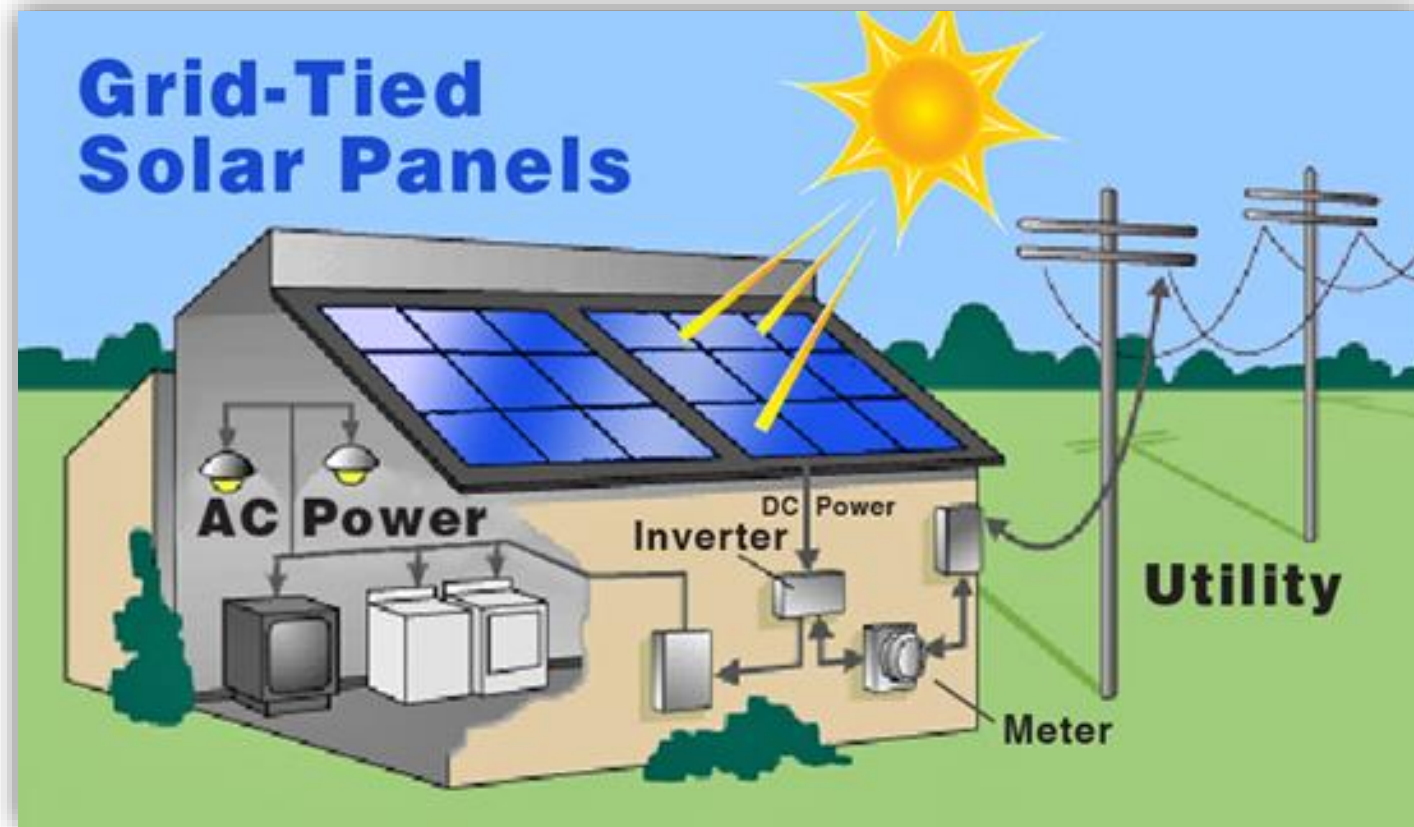
- Station of water fabrication
 - It uses solar panels to harness solar energy and water vapour in the air to generate clean and fresh drinking water
 - Capacity: 3-5 liters of pure water per day by panel (2m²).
 - Used by the municipality



Renewable Energy: Small Projects in Akkar Atika



- Partnership with the Sida-funded ESCWA Project “REGEND”
- Renewable energy systems for the municipality, the cooperatives, and the dispensary
- Equipment for productive activities to increase productivity, boost revenues, and create more jobs
- Capacity-building activities including renewable energy, women empowerment, and productive activities



Renewable Energy: Municipality Needs

- Install solar-powered **streetlighting** in the village by replacing some of the 2,500 existing lamps
- Install **cameras** in the forest



Renewable Energy : The Role of the Municipality

- Municipalities still play a crucial role and can apply many distinct and important modes of **governance** in the field of renewable energy policy.
 - Legitimate authority that contacts the donors
 - regulation and planning
 - provision of energy, public organizations and housing: municipality as business actor
 - support and information: promote the use of renewable energy

Renewable Energy : The Role of the Municipality

- Municipalities can work with their **citizens and businesses** as well as with businesses from outside to attract investment in renewable energy, using the frameworks that exist at higher levels of government. Wind energy and solar energy will be financed by a high number of citizens,
 - A third-party solar company can own a solar system located on a property and sell the solar electricity generated by the solar system to that property's owner via a Solar Energy Procurement Agreement
- **Education purposes**: If solar panels are installed on the roofs of our technical school buildings, the projects can also serve as an educational platform for students majoring in electrical technology

Renewable Energy Transition

- The world is undergoing an energy transformation.
- We have to adjust to the new ways in which energy is consumed.
- Capitalizing on this transition will require civic leadership and courage to be a first mover and blaze a new path that can be followed.
- Thousands of businesses and residents in the region will take advantage of this clean energy opportunity.

Thank you



Mohamad.khalil@ul.edu.lb | Tel: 03396747