Innovation through Community Net

Metering in Lebanon

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ESCWA/RSS/NERC

“Access to Finance for Municipalities – Nexus Thinking and Decentralization of Subnational Governments”

Amman, Jordan – 29-30 January 2020
Since 2007, approximately $41.4 million have been and will be directly disbursed for advancing sustainable energy for Lebanon.
Army Fayadieh 14,000 Liters
Jezzine Gov. Hos. 3,000 Liters
Hermel Gov. Hos. 4,000 Liters
Tripoli Gov. Hos. 14,000 Liters
Sibline Gov. Hos. 6,000 Liters
Keserwen Gov. Hos. 6,000 Liters
Ehden Gov. Hos. 500 Liters
Ab. El Rassi Gov. Hos. 4,000 Liters
Ab. El Rassi Gov. Hos. 6,000 Liters
Ain Deleb Public Sch. 1.8 kW
Akoura Municipality 1.8 kW
Hosh Omara community center 1.8 kW
Kfour Public Sch. 2 kW
Khelweet Public Sch. 1.1 kW
El Hakoor Public Sch. 1.1 kW
Aley Prison; 3.3 kWp & SHW 600 liters
Aana Intermediate Public Sch. 1.8 kW
Ein Ebel Municipality 1.2 kW
Solar photovoltaic (PV) systems

- Gem. Freres – Cardboard – 300 kWp
- LibanJus – F&B – 135 kWp
- Libanlait – F&B – 215 kWp
- USEK – 212 kWp
- ISF – 42 kWp
- Tahrir Institute – 117 kWp
- Souk Akkar – 120 kWp
- RMF – 135 kWp
- AUB Bechtel – 142 kWp
Solar photovoltaic (PV) systems

Orphan Welfare Society - 300 kWp

Nabatieh Market - 200 kWp

Hammana WWTP - 45 kWp + storage


Dar Al Salam - 70 kWp

Southern Suburbs Federation - 105 kWp

Kfarroumane Public School - 30 kWp + storage

Tebnine Public School - 40 kWp

Jdeidet EL Chouf WWTP - 90 kWp + storage
V24 Scheme – Objective

Objective:

Can a Lebanese community come together and decide to invest in a community initiative to produce electricity from clean renewable resources and benefit from economics of scale?

Which is better?
- Cost-wise per unit or capacity? With/without storage & Network considerations…
- Which is technically viable under current conditions?
- Space and shading considerations?
- What flexible contractual models are in place?
- Utility stance?

Roof-top Solar

OR

Community Solar
The V24 Scheme must allow for two modes of operation:

**Mode 1: When Utility Power is off**

- Condition: Diesel gensets have to centralized with separate network

**Mode 2: When Utility Power is on**

- Micro-grid condition
An EU financed community 250 kWp Hybrid PV – Diesel system has been installed serving as a pilot project based on which the V24 scheme has been developed and is being tested.
V 24 Scheme – Process (a recommendation)

STEP01 Consultation between the municipality and the residents

STEP02 Preliminary study by expert(s) on RE applicable to village

STEP03 Preliminary request for V24 scheme from municipality to EDL

STEP04 Establishment of Energy Committee

STEP05 Detailed study, technical specifications & procurement of RE system (with EDL approval)

STEP06 Full RE project implementation

STEP07 Energy Committee contract & all supporting docs. on RE system sent to EDL for review

STEP08 Final Energy Committee & EDL agreement signed & initiation of community net metering
V 24 Scheme – VNM subscription model

Forming the Community Net – Metering Scheme
Based on the EDL decision No. 318-32 / 2011 for single net - metering
And introducing the ‘virtual index’ concept
EDL Online Net Metering Application Platform – Application Form

EDL has single net metering and the EU financed CEDRO program has helped make the net metering process digital through the net metering application form.

Therefore adjusting for VNM stems from the background of single net metering

http://www.edlnetmetering.com/
V 24 Scheme – billing tool

![Billing Tool Interface]

**EDL - Kabrikha**

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Total Shares: 106.0%  Active Subscribers: 314
V 24 Scheme – billing tool
V 24 Scheme –

Communication hardware

* Private M2M network

** Through Power Line Communication

EDL collection department and head office

Energy Committee / Municipality

From utility Power plants

Centralized PV plant

Concentrator

Distribution Substation

Power Lines

Smart meter

Industries / institutions feeding at the MV level

Under the supervision of

EDL
Thank you

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Building 287B, 1st floor