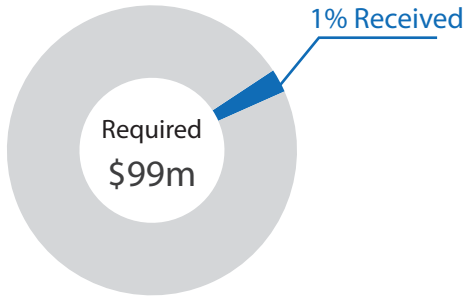




The January-December dashboard summarizes the progress made by partners involved in the Lebanon Crisis Response and highlights trends affecting people in need. The Energy Sector in Lebanon is working to: OUTCOME 1) Increase energy production through implementation of renewable energy sources; OUTCOME 2) Reduce energy demand due to implementation of energy efficient initiatives; OUTCOME 3) Improve access to electricity through Rehabilitation and Reinforcement works on the Transmission and Distribution networks; OUTCOME 4) Enhance capacity of MoEW to plan, budget and oversee energy sector initiatives.

### 2018 funding status

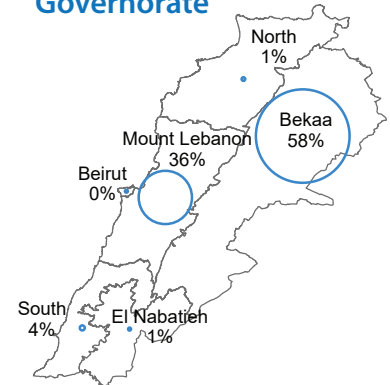
Funding received Jan to Dec 2018



### Targeted population



### Breakdown of Beneficiaries Governorate



## Progress against targets

### Outputs

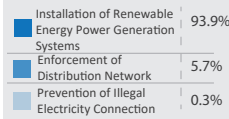
	reached / target
# of solar water heaters provided to HH	0 / 39,315
# of sites and municipalities with access to off-grid street lighting	22 / 38
# of public wells with installed solar power for water pumping	0 / 5
# of Renewable Energy power generation systems installed for communities and/or institutions	13 / 4
# of households with access to energy efficient products (indoor LED and Solar cookers)	0 / 12,018
# of public institutions (schools, healthcare) with access to energy efficient products	0 / 114
# of wells equipped with variable speed pumps	0 / 51
# of public institutions and/or households that have undergone an awareness campaign on Energy Conservation	0 / 114
# of persons reached through installation of necessary equipment to reinforce the transmission network	0 / 94,600
# of staff provided to MoEW to assist in implementation of projects	0 / 8

### Outcomes

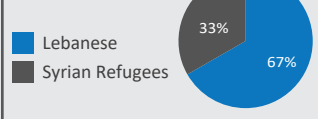
	LCRP 2016 Baseline	Dec 2018 Current	2018 Target
<b>OUTCOME 1:</b> increase in MWh resulting from installed capacity through renewable energy sources (MWh/year)	0	1,741	116,300
<b>OUTCOME 2:</b> Reduction resulting from installed capacity through energy efficient measures in MWh (MWh/year)	0	0	30,000
<b>OUTCOME 3:</b> # of persons reached through installation of necessary equipment to reinforce the transmission network & the distribution network	0	20,255	371,740
<b>OUTCOME 4:</b> # of new energy initiatives resulting from capacity development and support to MoEW	0	1	66

### Type / Nationality Breakdown

#### % of Beneficiaries per Intervention

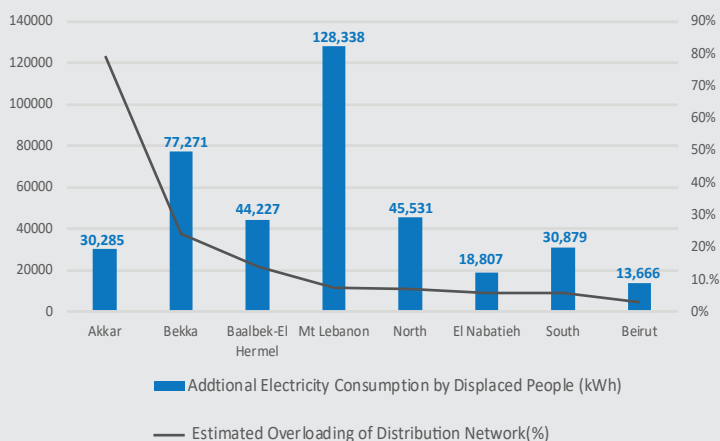


#### % of Beneficiaries per Nationality

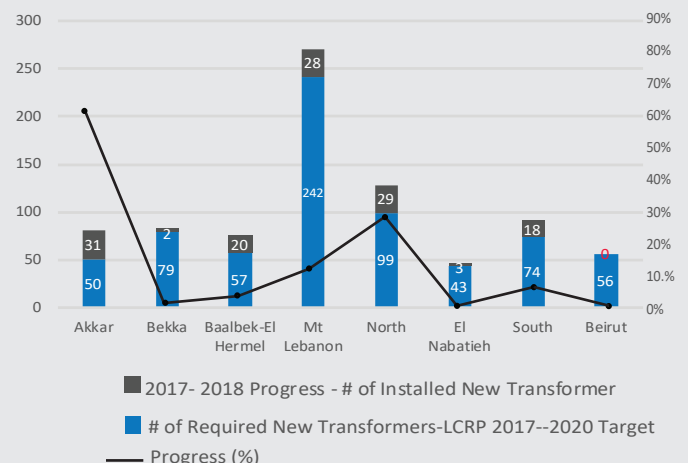


## Analysis

### Impact of Syrian Crisis on Lebanese Electricity Network (MoEW & UNDP, 2017)



### Progress vs Needs of Intervention Per District



## KEY CONTRIBUTIONS OF THE SECTOR TO LCRP IMPACTS

In 2018, the projects implemented by Energy LCRP partners (Total three partners reported their projects this year) focus on the installation of renewable energy equipment (Output 1.1: Increase in electricity production through implementation of renewable energy, two partners) and the rehabilitation of the electric distribution networks (Output 1.4: Improve access to electricity through implementation of reinforcement and rehabilitation works on the distribution network, two partners). By enhancing electrical services and capacity at the national and local level in a sustainable manner, these interventions contribute to the LCRP's third objective of supporting service provision through national systems, and the fourth objective of reinforcing Lebanon's economic, social, and environmental stability. By its nature, these interventions benefit both genders equally.

Regarding renewable energy (Output 1.1), the installation of distributed solar photovoltaic systems in public institutions has succeeded in creating sustainable impacts on various institutions, which can be a transition solution for other LCRP sectors. To support the vulnerable public and non-governmental organizations in mitigating their financial burden regarding electricity bills, distributed solar photovoltaic systems have been installed under LCRP. The Energy sector so far installed hybrid solar photovoltaic systems in 12 public institutions (2 waste water treatment plants, 2 schools, 2 health institutions, 4 NGOs, and 2 other public institutions) across Lebanon. In total 1,481 kilowatts of solar photovoltaic systems were installed. This will save around 2,080 megawatt hours of electricity consumption per year from the diesel generator and the grid and provide around \$375,000 a year in electricity bill reductions throughout its lifetime (c.a. 20 years). Since the cumulative financial savings from the solar photovoltaic systems are much larger than their investment cost, the project will have sustainable impacts on the public institutions, which can potentially shift energy savings to their service provision and its greater access. Interestingly, through the provision of the grant, some of the beneficiaries (e.g. private hospital and NGO) could even mobilize their capital from the financial savings it provided to re-invest in renewable energy or even in enhancing some of their services, hence multiplying the impacts of the grant element.

In collaboration with EdL and the Ministry of Energy and Water, the partner's project demonstrated the community-led centralized solar PV system with the virtual net metering scheme in the village of Qabrikha with, a new system architecture can be developed where the centralized diesel generators are replaced by a grid connected battery energy storage system. This innovative micro-grid scheme would allow the community to co-invest and share its benefit, thereby has the potential to further accelerate installation of solar PV systems in Lebanon (See the guidebook here: <https://goo.gl/vuTXgE>).

The off-grid street lighting has been installed in 22 municipalities, where it was found that street lighting was limited, or the available public infrastructure has fallen into disrepair before the intervention. While increasing the production of renewable energy, the street lighting plays an important role in reducing crime and vandalism, and making residents and pedestrians feel safer during the night.

The reinforcement of the distribution network is one of the key interventions aiming to increase the capacity to deliver quality electricity to additional end-users, especially to the most vulnerable people and communities (Output 1.4). Installation of the new transformers was done in the most vulnerable communities and around 10,000 households connected to the national grid are now benefiting from the improved quality of grid electricity. Through a project that aims at the prevention of illegal connections, a total of 224 legal electrical connections, along with net metering systems, have been installed in Bekaa, Akkar, Baalbek, and the North in 2018.

## CHALLENGES

The main challenge of the sector remains to raise funds and to advocate for the importance of the sector. Electricity in Lebanon remains a controversial issue: the challenges that the sector faced before the Syria crisis have been severely exacerbated by the extra consumption of electricity, causing more losses to the government and the Lebanese population.

The ministry estimated that the installation of approximately 700 new medium and low voltage transformers are needed to accommodate the demand increase while the partners have installed 122 transformers to date. Because upgrading of the distribution network is a capital-intensive activity, it is a difficult challenge to raise sufficient funds to reach the vulnerable communities most in need.

Regarding the installation of renewable energy, given solar photovoltaic positive return on investment, and immediate and sustainable monetary saving, the possible solutions for this are to; 1) mainstream renewable energy and energy efficient projects in other sector's strategic interventions, especially support to public institutions, and; 2) leverage private investments through technical and financial support with grant.

## ⚡ KEY PRIORITIES AND GAPS FORESEEN FOR 2019

The 2019 Energy sector strategy remains the same as 2018. The sector aims at achieving higher targets for Output 1.1: Increase in electricity production through implementation of renewable energy. There are 13 partners that are appealing under this activity across Lebanon, with the focus on Bekaa region. As for coordination issue, the Energy sector, under the guidance of MEHE will closely coordinate with the Education sector for the implementation of renewable energy projects mainly distribution of Solar PV systems and installation of energy efficient (LED Lighting) projects in public schools. Since the installation of solar PV in schools can generate monetary savings throughout its lifespan (c.a. 20 years), The financial savings can be re-directed to core education activities such as school enrolment.

### ⚡ Case Study

Based on the Nabaa neighborhood profile conducted and published by UN-Habitat in 2017, several streets showed defect in their street lighting fixtures. The aim of Nabaa interventions was to address safety issues, pedestrian accessibility and safe mobility, in addition to promoting inclusive societies, and sustainable green interventions. And knowing the effect of dark streets at night in a highly dense and populated neighborhood, with a total refugee population constituting 63% of the total population residing in Nabaa (based on the profile), UN-Habitat installed and provided 32 solar street lighting fixtures wall mounted on brackets (8 fixtures of 40Watts, and 22 fixtures of 70Watts, and left 2 for the Municipality stock). And to ensure community engagement in the installation process, UN-Habitat led community consultations backed-up with awareness raising sessions to ensure the fixtures' sustainability and functionality. The solar panels were installed on buildings' roofs, batteries were also protected with a galvanized steel box with locks handed to each building elected resident.

Hayat a local resident said: "It is a very needed intervention for the community, people are asking for more lights than other kind of assistance". Total 4,428 residents (1,461 Lebanese; 2,790 Syrian Refugees; 177 other nationalities) in Nabaa neighborhood are benefiting from this project (See more detail here: [https://reliefweb.int/sites/reliefweb.int/files/resources/UN-Habitat\\_2017.05.08\\_NPS\\_Nabaa\\_web.pdf](https://reliefweb.int/sites/reliefweb.int/files/resources/UN-Habitat_2017.05.08_NPS_Nabaa_web.pdf)).

The profile findings led other NGOs working in the area to implement additional solar street lights in the rest of unlit streets. ACTED installed 36 wall mounted fixtures of 20Watts lights in the main Nabaa street, and CARE international 19 wall mounted fixtures of 40Watts).

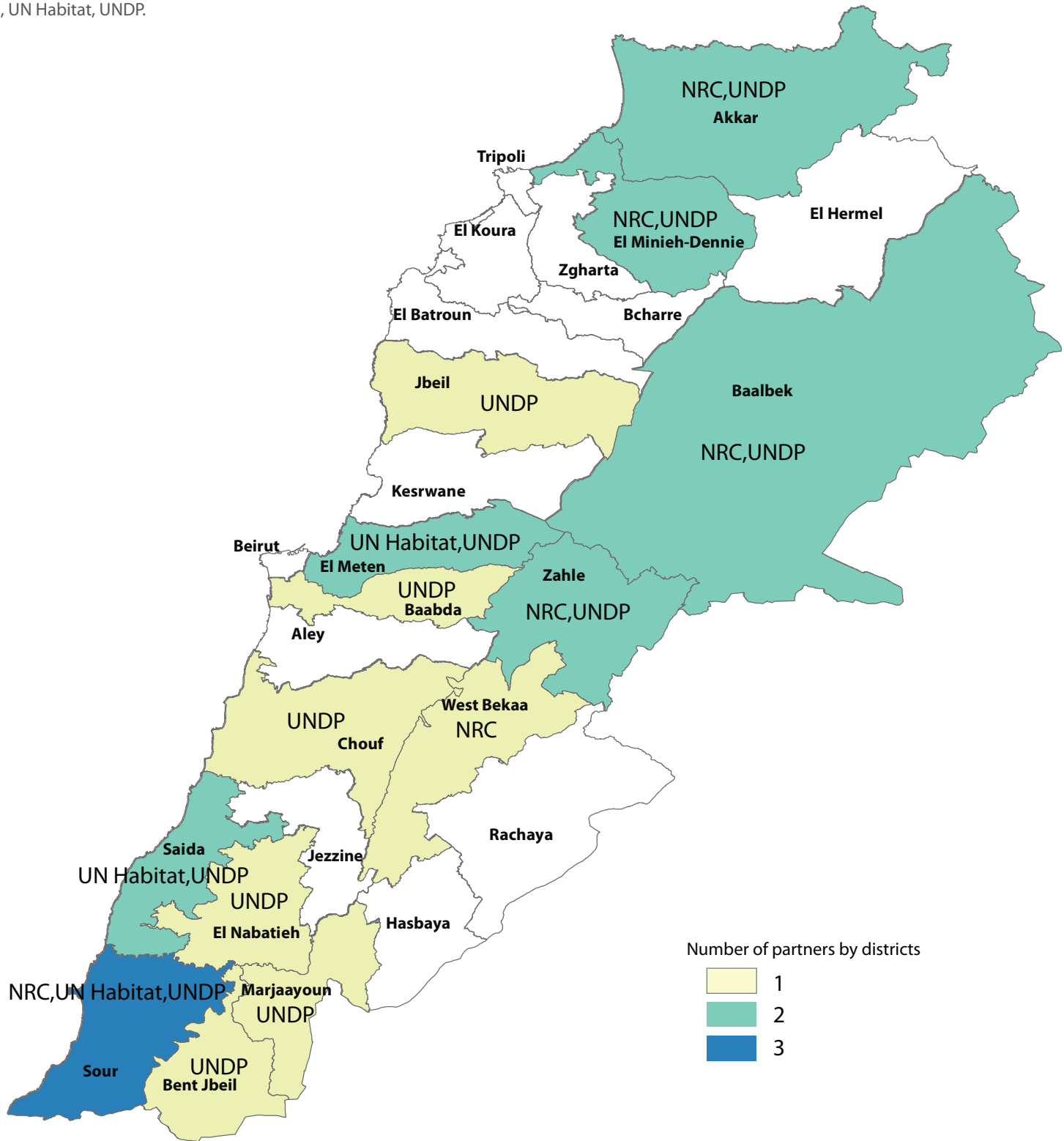




## Organizations per district

The achievements described in this dashboard are the collective work of the following 3 organizations:

NRC, UN Habitat, UNDP.



Note: This map has been produced by UNDP based on maps and material provided by the Government of Lebanon for Inter Agency operational purposes. It does not constitute an official United Nations map. The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.