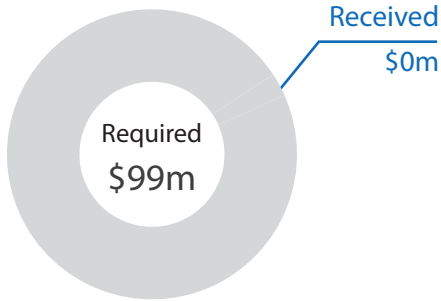




The 'January - April 2018' dashboard summarizes the progress made by partners involved in the Lebanon Crisis Response and highlights trends affecting people in need. The Energy Sector in Lebanon is working to: OUTCOME 1) Increase energy production through implementation of renewable energy sources; OUTCOME 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 as of 30 April 2018

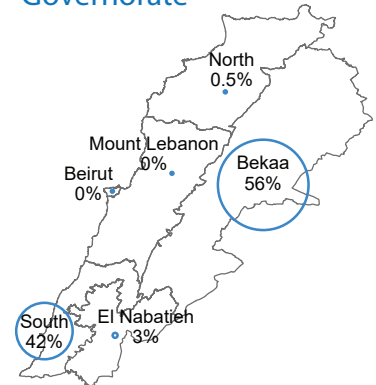


### Targeted population groups

3,309,487 (People in Need)

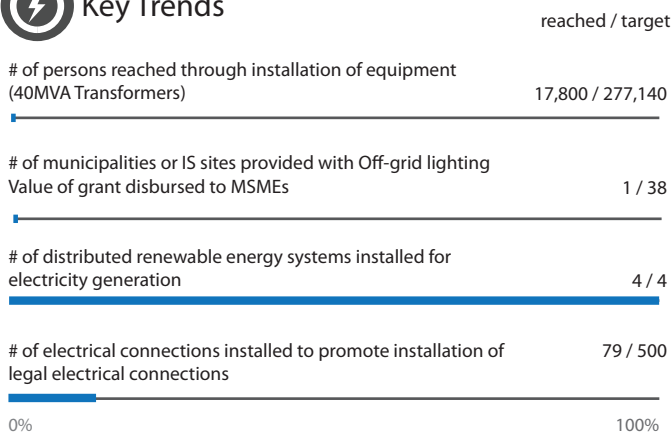


### Breakdown of Beneficiaries Governorate

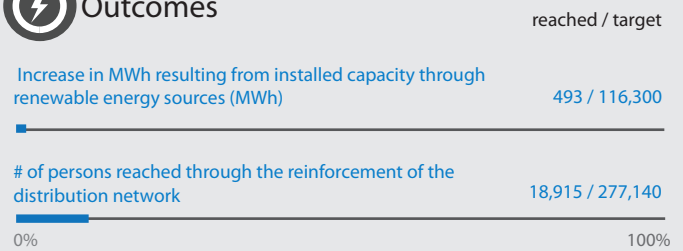


## PROGRESS AGAINST TARGETS

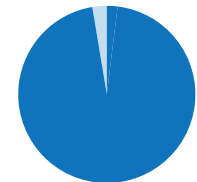
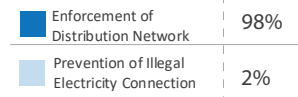
### Key Trends



### Outcomes



### % of Beneficiaries per Intervention



## KEY ACHIEVEMENTS

- 1 municipality (Tyre) is provided with 31 off-grid solar street lighting systems (Output 1.1.B)
- 2 public institutions & 2 NGOs are provided with solar PV systems, decreasing their fiscal burden from the electricity cost (Output 1.1.D)
- Reinforcement of distribution network has been undertaken through the installation of new transformers and relevant parts in 5 Cazas and electrical connections are installed in 79 sites to promote safety and installation of legal electrical connections, reaching approximately 18,195 individuals (Output 3.2.A)

### Facts and Figures

Power generation required to cater the daily needs of displaced Syrians	486 MW
Power added to the grid since 2010	715 MW
Percentage of energy supplied to displaced Syrians out of total energy supplied in Lebanon	33%

## KEY CONTRIBUTIONS TOWARDS LCRP IMPACT(S)

The overall objective of the Energy sector is to provide all vulnerable populations with an improved, equitable, and gender appropriate access to electricity in terms of quality, quantity and sustainability by the year of 2020. By enhancing electrical services and capacity at the national and local levels in a sustainable manner, the Energy sector contributes to the LCRP's third strategic objective of supporting service provision through national systems, and the fourth strategic objective of reinforcing Lebanon's economic, social and environmental stability.

In 2018, 3 partners have actively implemented projects in the Energy Sector under LCRP. The projects implemented by these partners focus on the installation of renewable energy equipment (Output 1.1: Increase in electricity production through implementation of renewable energy) 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) as per the sector's priorities.

In terms of the installation of renewable energy, the off-grid street lighting has been installed in one municipality and the installation is ongoing in other 17 municipalities. Solar PV systems were installed in two public institutions (municipalities) and two NGOs (child welfare center and medical center for elderly and physically disabled persons), reducing the burden of increased electricity cost while also adding total 340 kWp of renewable energy capacity in Lebanon. With the investment of about \$ 356,000, this will save around 493,000 kWh of electricity consumption per year and could provide around \$ 73,950 a year of electricity bills reduction. These activities under Output 1.1 contribute to the sector's impact through filling the electricity supply/demand gap, which has been significantly expanded by the influx of displaced populations.

The reinforcement of the distribution network is one of the key interventions aiming to increase its capacity to deliver quality electricity to additional end-users, especially to the most vulnerable people and communities. Installation of the new transformers was conducted in five vulnerable cazas (Baalbek, Zahle, Marjaayoun, Saida, and Sour) and approximately 17,800 individuals are now benefiting from the improved quality of grid electricity. Through a project that aims at the prevention of illegal connections, a total of 79 legal electrical connections along with the net metering systems have been installed in West Bekaa, Akkar, Baalbek, Zahleh, and MiniyeH-Danniyeh.

Overall, the Energy Sector reached 18,915 population out of 1,119,172 target population in 2018 January to April.

## CHALLENGES

Overloading of the distribution network due to increased demand especially in localities hosting large numbers of displaced people is a critical and urgent issue because it causes a decline in the quality of electricity supply to households and increases the risk of fire and damage in overburdened transformers. Because the 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.

## KEY PRIORITIES AND GAPS FORESEEN FOR THE NEXT 4 MONTHS

The interventions in the Energy sector will have both direct and indirect benefits on vulnerable communities while also contributing to the implementation of national plans. Improved electricity quality and supply will benefit not only vital services such as hospitals and schools, but also the business climate in Lebanon because an unreliable electricity supply and high production costs have significantly hampered local economic development and job creation in Lebanon. Last year, the rehabilitation of the distribution network reached more than 90,000 beneficiaries. The installation of distributed renewable energy will contribute to job creation and promote the circulation of money within local communities by utilizing their natural resources such as biomass residues. Considering these broad benefits, the sector's key priorities are the improvement of the distribution network and the installation and promotion of distributed renewable energy.

However, the lack of funding remains a critical issue in achieving these results, and the Energy sector will address this challenge through more effective advocacy and coordination with the other sectors and stakeholders.

## CASE STUDY

Exacerbated by the increased electricity demand from the displaced people, Lebanon is suffering from the frequent power outage and low-quality electricity supply. During the blackouts, people and institutions have been forced to purchase electricity from costly and environmentally unfriendly private diesel generators. The cost of reliance on diesel generators places an additional fiscal burden on already-stretched public institutions such as schools, health care centres and hospitals that provide service to Lebanese and displaced populations.

In the meantime, distributed solar PV systems are fast becoming a cost-effective energy solution in Lebanon and are being widely adopted in industrial and commercial sectors partly due to their decreasing price. The hybrid PV-Diesel solution, which was demonstrated by the UNDP project in Lebanon, has been increasingly installed in the private sectors due to its unique architecture that is best suited for Lebanon. When there is power from the national utility, the solar PV will provide the power first, and the national utility's power will top-up the needs of the institution. On the other hand, when the national utility power is off, the institutions rely on diesel backup generators. With a solar



PV system installed, the priority is again given to the solar PV injecting power to the institution, while the diesel generators will top up the solar power and ensure the stability of the local grid. Although public-sector institutions and Non – Governmental Organizations could benefit from these solutions, they cannot often afford the relatively high initial capital investment costs required for renewable energy technologies.

To support the vulnerable public and non-governmental organizations in mitigating their financial burden in terms of electricity bills, Hybrid Solar PV-Diesel systems have been installed by the UNDP with the funding from the Netherlands.

The Karagheusian Association for Child Welfare in Lebanon (NGO), which is located in Bourj Hammound, an overpopulated city north of Beirut, is now benefiting from the clean and affordable energy generated by the 25 kWp solar PV system. This will save around 36,250 kWh of electricity consumption per year from the diesel generator and the grid and provide around \$5,437.50 a year of electricity bills reduction. The centre provides medical, social, psychological and educational services to around 32,000 people (children and their families) who are indirectly benefiting from the installation of the solar PV system with improved quality and supply hours of electricity.

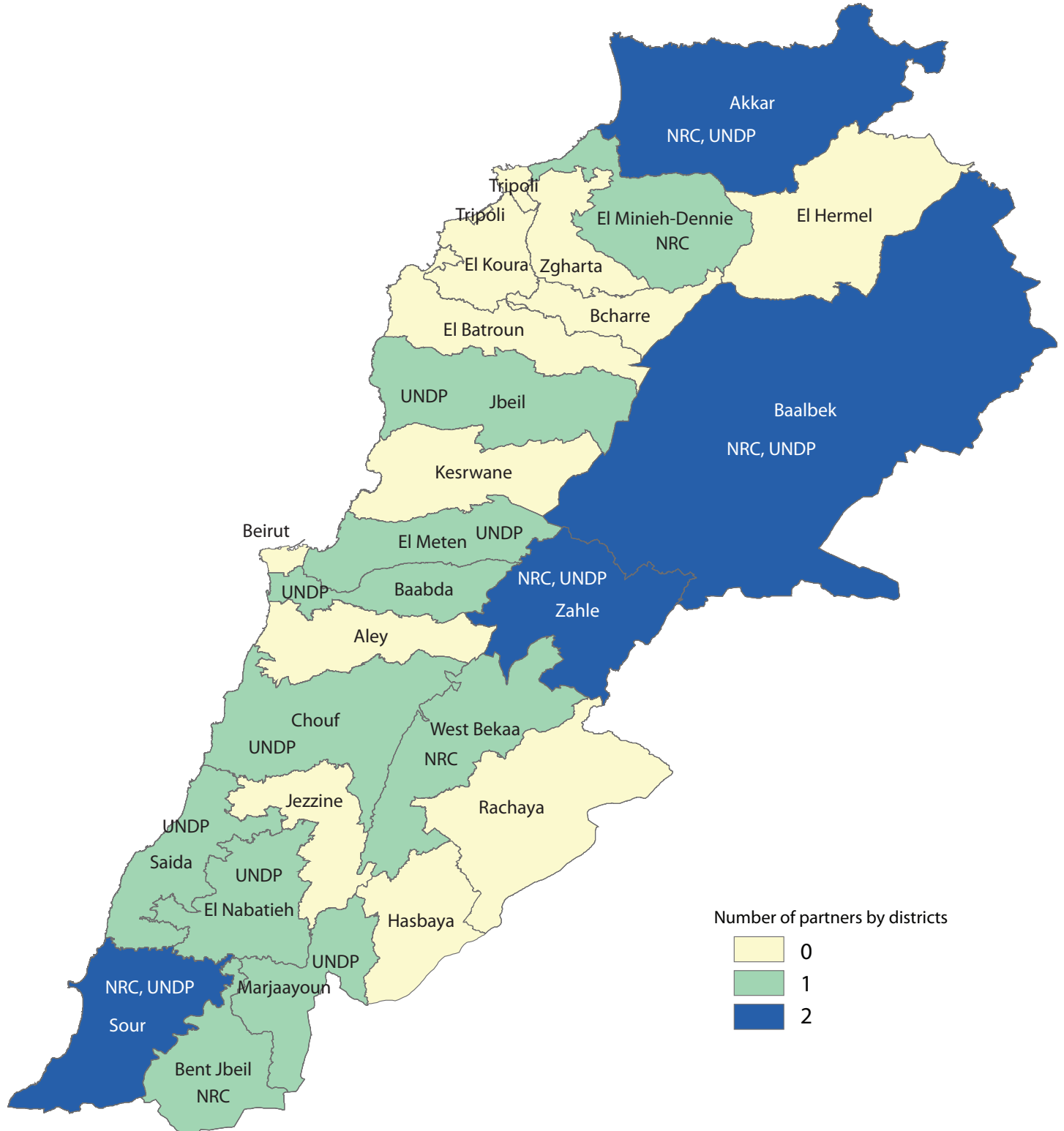
Through the provision of the grant, some of the beneficiaries (e.g. hospital) can even mobilize their own capital from the financial savings it provided to invest in renewable energy or even in enhancing some of their services, hence multiplying the impacts of the grant element. In addition, co-financing from the beneficiaries also ensures the sustainability of the projects. Overall, this project illustrates how the Energy sector responds to the crisis while also improving the long-term resilience and sustainability of Lebanese communities.



## Organizations per district

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

Mercy-USA for Aid and Development, NRC, 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.