

Solar aid

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Vast scale of large-scale migration

Rarely has the world seen the intensity and severity of change being experienced today in the Middle East. Among the record 60 million forcibly displaced people today around the world (the first time this level has been reached since World War II), more than 20 million are now suffering as refugees, internally displaced persons (IDPs), and forced migrants in the Middle East. This includes approximately eight million IDPs in Syria and four million Syrian refugees in neighbouring countries such as Lebanon and Jordan, two million IDPs in Iraq, and large and growing numbers in Yemen. The level of forced displacement is higher than ever before, re-shaping the nature of development challenges in the region, including challenges of energy security.

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Among the many priorities for the post-2015 era, Sustainable Development Goal (SDG) 7 focuses on the world's aspiration to: *'Ensure access to affordable, reliable, sustainable and modern energy for all.'* To address this goal of expanding energy access for the poor, in addition to scaled-up levels of assistance in Least Developed Countries (LDCs) around the world, support is also crucially needed to address the unique plight of forcibly displaced communities in the Middle East, now among the world's poorest and most vulnerable communities. Alongside issues of access to shelter, food, and water, issues of energy access have been a

growing cause of concern by displaced communities, host countries, and international partners alike.

Energy security and refugees: challenges facing LDCs

Today, the vast majority of refugees and IDPs globally are hosted in developing countries; countries that already face strained levels of energy security. Examples of such countries in the Middle East include Lebanon, Jordan, Iraq, and Syria, all of which faced energy challenges even before the refugee and IDP crisis began, and where the vast majority of refugees and IDPs now live in cities and towns rather than in camps. For communities living in cities and towns, constraints to sustainable provision of energy access exist, either owing to ongoing conflict and destruction of infrastructure, as in Syria and Iraq, or from lack of fiscal space and limited ability to expand already stretched local energy supplies, as in Lebanon and Jordan.

Whether for those living in cities and towns, or for those hosted in refugee camps, a lack of sustainable access to energy creates dire challenges for daily life and for the ability to recover from the devastations wrought by conflict and forced migration. Energy deficiencies have important social consequences. Lack of access to energy hinders the ability to earn a living and use basic communication devices, while refugees and IDPs often resort to using wood, coal, or charcoal for cooking and heating needs. This exposes women and children to serious health impacts and to security risks in the search for fuel. The search for wood can also lead to encroachment into protected forest

areas, in some cases causing tensions with local host communities.

Potential for solar power to improve energy access

Expanding the use of sustainable energy solutions like solar power to meet the basic needs of refugees and IDPs is therefore important and urgent, not only from a humanitarian perspective, but also from a development perspective. This is because it helps reduce pressures on the energy systems of host countries, which are already under strain, and it helps achieve goals of inclusion and sustainability for the benefit of refugees and IDPs as well as local communities.

In this regard, three key opportunities should be in focus for responses in the Middle East:

- 1 Expanding decentralized solar power solutions in host communities to increase their resilience and offset increased demands from refugees and IDPs,
- 2 Deployment of off-grid solar energy technologies for use in refugee camps to meet basic needs, and
- 3 Prioritizing sustainable energy within the international community's humanitarian and development responses to the refugee and IDP crisis.

Decentralized and distributed generation models to increase host country resilience

The first priority should be on expanding decentralized solar power in crisis-affected countries and refugee host communities, through engaging the role of solar technology and innovation to reduce systemic risks to development pathways from the



converging crises of energy insecurity and refugee and IDP influx. This is particularly important in cities and towns in Lebanon, Jordan, Iraq, and Syria which are playing host to large numbers of refugees and IDPs. These cities and towns are facing pressures in various ways, with pressures on energy supplies among the most crucial.

Lebanon is an important example. It now hosts over 36 per cent of all refugees that have left Syria over the past four years, a major global contribution by a relatively small country. According to some estimates, the share of Syrian refugees has reached 25 per cent of the overall population in Lebanon, the highest relative share of any country hosting refugees during the current crisis. This brings various risks to Lebanon's development pathway, including energy.

With the vast majority of refugees living in cities and towns, rather than camps, pre-existing challenges of national and local energy insecurity are being exacerbated by the surge of extra energy demand from the large population influx. These challenges include rising prices for basic fuel supply and the impact of regular power cuts, creating risks for the ability of both Lebanese host communities and Syrian refugees alike. As part of Lebanon's Response Plan to the Syria Crisis, a series of activities has been launched by the Government, with the support of the UNDP and Germany, to expand the use of renewable energy solutions for basic energy needs such as household cooking, heating, and community lighting needs in communities in North and Bekaa regions. These are among the poorest areas of the country, while also being the areas where a majority of refugees reside.

Another example is in neighbouring Jordan, also a major global contributor to the hosting of Syrian refugees.

Jordan is, however, one of the world's most energy insecure countries, with an expensive import bill covering 97 per cent of its local energy needs alongside increased energy subsidies to households for their basic needs. With approximately 80 per cent of refugees residing in regular cities and towns across the Kingdom, additional energy demands have resulted in increased pressure on public expenditures, and thus in some level of risk to fiscal stability and community resilience.

Owing to these systemic risks from rising energy demand, Jordan has made a concerted effort to integrate sustainable energy solutions into the Jordan Response Plan (JRP) to the Syria crisis. Depending on the level of support by the international community, this would involve approximately US\$100 million of proposed renewable energy and energy efficiency activities in host communities across the country. Like Lebanon, Jordan's proposed activities focus on the most affected governorates, where converging pressure from refugee population influx and baseline levels of energy insecurity are highest.

Proposed activities in the JRP include: scaling up the use of solar water heaters, energy efficient lighting, and solar lamps and chargers. If done at scale and across several host communities, such projects can offset increased demands from refugees, reduce levels of energy intensity, provide green and clean solutions for basic household needs, and manage overall risks to fiscal stability and national development pathways.

In these and other cases, with large and growing levels of incremental energy supply needed to effectively respond to the Syria crisis in the region's cities and towns, responses can align to, and benefit from, the new level of renewable energy investments planned as part of the region's overall

drive for a *green growth model*. Rather than expanding import-dependent fossil fuel capacities, extra loads can instead be addressed through scaling-up solar energy solutions, as in the cases above. This would be a strategic means of connecting the region's general interests in expanding solar investments for green growth with addressing the pressing energy access needs for crisis-affected communities.



'ACCESS TO SOLAR SOLUTIONS IN CRISIS-AFFECTED COMMUNITIES CAN HELP RELIEVE INCREMENTAL PRESSURES ON ENERGY SUPPLIES ...'



Across the region, expanded access to solar solutions in crisis-affected communities can help relieve the incremental pressures on energy supplies and thus greatly help national energy security, while also bringing benefits to host communities and refugees alike in terms of household- and livelihood-related energy needs. Other advantages include: important health benefits from reduced use of fossil fuels like diesel in dwellings, improved education through enhanced lighting for reading, less need for women and children to seek out energy provision (thus reduction in risks to their security), fewer cases of unregulated or illegal felling of wood from forests, and cash savings from reduced energy costs (which can be reallocated to many other basic development needs by host communities and refugees alike).

There are many models for expanding the use of renewable energy in refugee host communities in the region. Distributed energy generation solutions are expanding in scope and many are at the stage of readiness for scaling-up. Recent years have seen significant cost reductions for solar PV and for a number of renewable technologies. More efficient end-use technologies for activities such as cooking and lighting

are readily available, while solar-based distributed power generation is an increasingly cost-effective alternative to fossil fuel-based solutions (like diesel).

To rapidly expand access to energy for communities now at risk, decentralized and distributed generation models are now an effective solution. Options include solar PV, solar water heaters, hybrid solar–diesel and/or solar–wind power sets, and biomass/biogas waste-to-energy generators. In reviewing options (including solutions like off-grid and mini-grid networks) for decentralized solar solutions, host communities should be engaged in the design and implementation of projects, there should be support for mobilization of financial resources from the international community, and documentation and sharing of good practice on use of solar for crisis recovery and community resilience building efforts.

Off-grid solar technology for use in refugee camps

A second priority is to rapidly scale up deployment of off-grid solar energy technologies in refugee camps specifically. While a smaller share of refugees currently in the region inhabit camps (relative to those being hosted in cities and towns as noted above), it is equally important to expand energy access in refugee camps, especially given their isolated location away from basic supplies of energy and other commodities.

Both historically and today, access to energy has not been adequately captured within the humanitarian response system. While rapid crisis response and recovery efforts around refugee camps do prioritize issues of shelter, food, water, and health, the same cannot be said for the underlying energy needs of these and other aspects of life in a refugee camp. This is even more the case when, as in

the Middle East, crises and resultant flows of refugees and IDPs are of a protracted nature.

‘BOTH THE IMMEDIATE AND THE MEDIUM-TERM ENERGY REQUIREMENTS IN REFUGEE CAMPS ARE IN DIRE NEED OF ATTENTION ...’

Both the immediate and the medium-term energy requirements in refugee camps are in dire need of attention by recipient countries and the international community. Inhabitants of refugee camps, particularly women and children, face health impacts from fossil fuels like coal, charcoal, and diesel, and face growing levels of grievance from local communities neighbouring the camps owing to unregulated or illegal felling of wood. Scaling up the use of solar power in camps can bring more sustainable electrification for water pumping, lighting for public walkways and individual family needs, mobile phone charging, basic cooking needs, and a host of other aspects of daily life.

Most refugee camps globally and in the Middle East are not connected to the national power grid since they are meant to be temporary in nature. But owing to the often protracted nature of crises, including those faced today in the Middle East, this results in a major gap, with serious risks to the overall resilience of the refugee camps, and to the ability of countries and the UN to adequately provide social services and basic needs to refugees.

In Jordan for example, the Za’atari Refugee Camp, in the north of the country, is now one of the world’s largest refugee camps, and sits on top of the country’s largest groundwater aquifer. Having evolved from a modestly sized operation in 2012, hosting refugees in the hundreds, it has now grown to the size of a small city with a population of approximately

100,000 refugees. As demands for basic services and needs grow, a number of energy access issues have arisen. While efforts to date have been scattered and largely focused on use of coal, charcoal, and diesel, more sustainable solutions are being considered.

Through the support of the UN and donor countries, a solar power facility is being considered for construction at Za’atari in 2016; this would greatly reduce the cost of providing power to camp residents and make their access to energy in both public and private areas more sustainable and cleaner, while improving basic needs, living conditions, and livelihood co-benefits from energy access. In the nearby Azraq Refugee Camp, a plan to install a solar power facility is likewise underway for 2016, while solar street lights have already been installed and solar lanterns are being provided, bringing lighting for general family needs including education, along with a phone-charging capacity in the lanterns which is critical given the broad benefits from mobile phones for livelihoods, safety, and security.

Vital role for sustainable energy within international community’s humanitarian and development responses

Last, but not least, is the need to mobilize the international humanitarian and development community to support the scaling up of solar solutions in both host communities in the region’s cities and towns, and refugee camps. This includes efforts to integrate sustainable energy access into crisis response, relief, and recovery policies and programmes by multilateral and bilateral donors. The Regional Refugee & Resilience Plan in Response to the Syria Crisis (3RP) – a platform for identifying and responding to country needs and for building greater synergies between



the humanitarian and development aspects of such responses – is a key opportunity for such an effort. While issues of shelter, education, food, and water rightly feature at the core of the plan and process, access to energy has also begun to be integrated.

In Jordan, for example (through UN technical assistance provided to the Government) approximately US\$100 million of proposed solar energy and energy efficiency projects were integrated into the Jordan Response Plan (JRP) – the national instrument to define local needs under the 3RP process. If funded, such measures could bring solar solutions to both cities and towns across Jordan, and to refugee camps, which together host over one million Syrian refugees. But while planning is underway to scale up solar solutions, large gaps in this important ‘solar aid’ agenda, which need the engagement of donor partners, remain.

In addition to the potential role of Western donors in contributing to solar initiatives as part of national responses to the refugee and IDP crises, the countries of the Arab Gulf have also emerged as leaders, both globally and in the region, in the provision of humanitarian aid and development assistance, having jointly provided over US\$100 billion of support since the 1970s. They are also world leaders in the energy sector, and are increasingly aspiring to emerge as a global and regional hub in the development and deployment of solar technology that is

adapted to regional conditions of heat and sand, and in investigating regional needs for innovation in areas such as energy–water co-benefits.

Partners like the UAE Ministry of International Cooperation and Development, the OPEC Fund for International Development (OFID), the Islamic Development Bank (IsDB), the Saudi Fund for Development, the Kuwait Fund for Development, to name but a few, have provided energy access investments and aid to countries for many years. The UAE, for example, now provides over US\$400 million for solar energy development in countries around the world, while OFID is providing over US\$100 million towards the important nexus of energy access to water and food security, to countries around the world. Mobilizing some of these resources and experience towards the plight of refugees and IDPs in the region can help bring about a new model of assistance that places energy at the centre of crisis response and recovery frameworks.

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‘AN IMPORTANT OPPORTUNITY NOW EXISTS FOR GULF PROVIDERS ... TO PLAY A LEAD ROLE IN THE PROVISION OF SOLAR AID.’
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An important opportunity now exists for Gulf providers of humanitarian and development assistance to play a lead role in the provision of solar aid to refugee and IDP host communities across the region, and beyond. This

can help bring forth the important role of energy in forging a stronger nexus between humanitarian and development systems of support, the nexus of energy access to the basic shelter, food, and water needs of refugees and IDPs; this can be of invaluable benefit to countries and beneficiaries in the Middle East.

In concluding, one may take heed of the call many years ago by Mahatma Gandhi to:

Recall the face of the poorest and the weakest man whom you may have seen, and ask yourself, if the step you contemplate is going to be of any use to him. Will he gain anything by it? Will it restore him to a control over his own life and destiny? In other words, will it lead to swaraj [freedom] for the hungry and spiritually starving millions?

This call to action rings true as much today as ever. New sustainable energy partnerships that address the plight of today’s refugee and migration crisis in the Middle East can help serve as a model for efforts to bring the benefits of green growth and innovation to the most needy in the world, in line with the new post-2015 development agenda and Sustainable Development Goal 7 on Energy.

**The opinions expressed herein are solely those of the authors, and do not necessarily represent the views of the United Nations, UNDP or its Member States.*

