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UNDP Global Policy Network Brief

Sustainable Energy Access for Crisis Recovery

Renewable Energy Solutions for Crisis-Affected Communities in the Arab Region

by Denis Korchunov and Sarah Rosenberg-Jansen[1]

Energy plays a critical role in the socio-economic development of countries, and without sustainable and affordable access, countries often struggle to recover from crisis and build a foundation for resilient long-term development. Lack of energy access restricts the ability of people in fragile and conflict-impacted situations to earn a living, secure access to clean water, cook food and access education and health facilities[2]. Lack of sustainable energy prevents and stalls communities in recovering from crises. The vast majority of refugees and internally displaced people (IDPs) are hosted within countries that already face energy security challenges in the Arab region. Reaching conflict-affected people with energy solutions is often highly complex and expensive, with diesel and fossil fuel import costs and logistics adding to an already fraught situation.

In 2022, the Arab region is hosting the twenty-seventh meeting of the Conference of the Parties (COP27) in Egypt, which will be followed by COP28, hosted in the United Arab Emirates in 2023. It is a timely opportunity for the UN, governments and private sector partners in the region, to join forces and launch a new era of partnerships for local action. This would ensure the region is on a pathway to achieve universal access to energy by 2030 and to mainstream renewable energy solutions into nationally determined contributions (NDCs) and other priorities, programmes and initiatives.

Despite numerous challenges, the region recorded a tenfold increase in renewable energy capacities over the past decade, with governments setting ambitious new visions and policies to expand the share of renewable energy, especially solar and wind power in their national energy mixes by 2030. This policy brief seeks to outline the challenges and opportunities in accelerating SDG 7 with a specific focus on countries in crisis and those impacted by crisis in the Arab region.

1. Energy access and resilience

Energy access underpins the day-to-day needs of communities and their resilience in the face of crisis. Without energy, health facilities and educational spaces cannot function properly, and people struggle to run businesses or develop fulfilling livelihoods. Access to energy is about more than just technology; it is an enabler that supports social interactions, professional outputs, health and wellbeing[3]. In this way, reliable and clean access to energy can also be considered a significant factor in bringing multiple benefits across the SDGs, including SDG 5, through reducing the scale of household tasks, which tends to fall on women and girls.

In contexts of crisis, energy is all the more important as many people's lives have already been uprooted or disrupted by climate induced disasters, such as more frequent and extreme droughts, floods or famine, or destroyed by conflict and war, violence, persecution, or human rights violations. The Arab States are diverse and hold great potential; however, all countries — whether oil-rich, middle-income, or the least developed — face difficulties in responding to climate change-induced disasters, pandemics or civil conflicts. For instance, the COVID-19 pandemic exacerbated the existing development challenges in the region and also affected revenues of many oil producing and importing countries due to volatility of global fossil fuel prices.

2. Energy access, development and humanitarian needs

In 2022, it has been estimated that over 102 million people were forcibly displaced worldwide. Of these, over 21.7 million people were forced over borders as refugees, 52.1 million people were internally displaced within their own countries, and 4.7 million were asylum seekers. In addition, there are 4.7 million returnees and 4.6 million stateless people, and another 14.4 million persons of concern[4]. In the Arab States, there are now numbers of individuals affected by conflicts, climate-induced disasters and civil conflicts. The region is home to 55.7 million people who need humanitarian assistance, including 26 million forcibly displaced people across the region[5].

Many countries that have experienced the effects of crisis are also experiencing energy poverty and rely on imported energy or energy sources to meet basic needs like access to health services, water, sanitation and hygiene (WASH) and education. In these contexts, energy is an enabler for moving from fragility to resilience. Most of the displaced people remain for many years in countries affected by protracted conflict situations, where energy is essential for restoration of basic social, health and education and is also required for the self-reliance and recovery of communities.

Although energy is important for humanitarian response and recovery, current schemes for energy supply in crisis situations are often inefficient, insufficient, unsafe, expensive and unsustainable[6]. The fossil fuel supply and polluting sources of energy can produce excess emissions, be harmful to the environment, impact the health condition of the displaced and be extremely costly[7]. The ability of
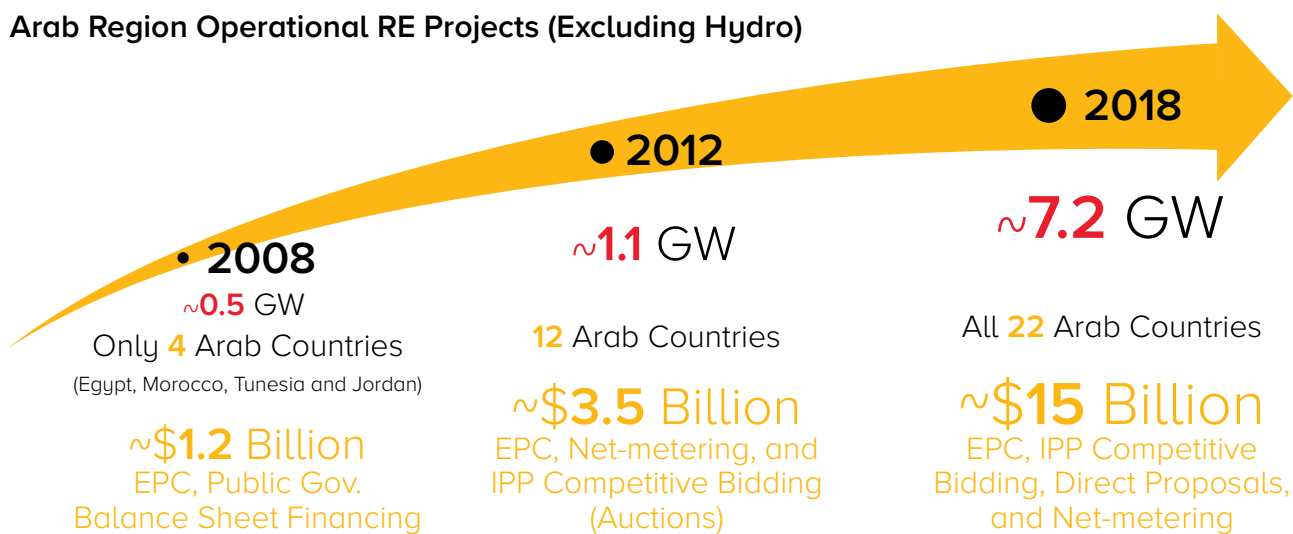
communities to cope with and rapidly recover from crisis hinges in many ways on their ability to regain access to sustainable energy. Too often, countries affected by crisis are unable to bring back the type of energy systems needed for an effective recovery and development. In such contexts, decentralized sustainable energy solutions are now receiving greater attention, as a way of meeting the needs of affected communities and building resilience.

The Arab States are often classified as highly vulnerable in terms of energy access[8], as conflicts and emergencies within the region cause disruption in supplies. Many Arab countries are energy producers and have large fossil fuel reserves, alongside provisions for electricity via national grids[9]. However, access to reliable and suitable electricity in the region remains a challenge even in countries that have vast oil reserves or high potential renewable energy resources such as wind and solar. The intermittency of stable power supplies as well as the quality and inequalities of access, often become more of a problem than access to energy[10]; supply issues are frequently compounded by inadequate human and institutional capacities. Conventional energy provision in the region is often carbon-intensive, with limited development of institutional and regulatory processes to enable diversification to sources such as renewable energy. The escalation of political conflict in some parts of the region over the past decade has added considerable complexity to these challenges. Demand for electricity supply has also increased rapidly with the increase of number of households and industries.

In most Arab countries, energy prices are regulated and subsidized to keep prices below market cost as a way of providing a social safety net. Volatile fossil fuel prices also impact local economies and exacerbate differences in energy costs within and between countries. The region's use of oil and natural gas to respond to the energy demand of countries in a crisis context becomes increasingly expensive, especially considering dependence on import and transportation cost, and the recurring cost of operations as compared to the use of

renewables. Despite the fact that less than 6% of the regional energy mix comes from renewable energy, the Arab Future Energy Index 2019 shows that there has been a tenfold increase in solar and wind power capacities over the past decade, and a doubling of capacities in just the past two years[11]. This positive trend towards a clean energy transition is also evident in conflict-impacted countries where renewable energy is emerging as the technology of choice and is playing a central role in recovery and stabilization.

Figure 1: Arab Region Progress (2008 - 2018)

Arab Region Operational RE Projects (Excluding Hydro)

2008
~**0.5** GW
Only **4** Arab Countries
(Egypt, Morocco, Tunesia and Jordan)
~**$1.2** Billion
EPC, Public Gov. Balance Sheet Financing

2012
~**1.1** GW
12 Arab Countries
~**$3.5** Billion
EPC, Net-metering, and IPP Competitive Bidding (Auctions)

2018
~**7.2** GW
All **22** Arab Countries
~**$15** Billion
EPC, IPP Competitive Bidding, Direct Proposals, and Net-metering

Source: AFEX, 2017

3. Energy needs and response in a crisis context

The High-Level Dialogue on Energy in 2021 set a higher level of ambition to advance a low-carbon trajectory and to eliminate energy poverty by 2030. In the Arab region, between 30 to 60 million people lack access to sustainable energy. UNDP`s own energy compact (a voluntary commitment to accelerate achievement of clean, affordable energy) pledges to provide energy access for an additional 500 million people globally by 2025. Apart from investing in infrastructure systems that are resilient to shocks and risks, decentralized renewable energy solutions could be instrumental in achieving this goal. Through its support, UNDP aims to develop well-functioning institutions, policies and financing mechanisms that enable people, business, communities and national governments to significantly improve the quality of life and prevent disaster risks and climate change.

There are a number of climate co-benefits that complement the provision of sustainable energy

services. For example, climate mitigation brings additional benefits, such as increased resilience of livelihood strategies, improved social services including health and education, reduced local pollution and a decrease in the use of scarce resources. UNFCCC has also identified several co-benefits of climate action and renewable energy solutions. The region's role in hosting climate COP27 in Egypt and COP28 in the UAE in 2022 and 2023, respectively, is also a timely opportunity for the UN, governments and private sector partners in the region to join forces and launch a new era of partnerships for local action. It is also an unprecedented opportunity to raise the bar and set the region on a path to a more inclusive and green future.

To accelerate the process of closing the energy gap for fragile and countries in crisis, an all-encompassing risk-informed approach is being used with three major elements closely mirroring the three generic phases of a crisis:

(i). *Pre-crisis phase:* mainstreaming <u>crisis-preparedness or risk reduction</u> into energy investments or programming through policy de-risking and institutional capacity development before an imminent crisis;

(ii). *During crisis phase:* integration of <u>vulnerability assessments</u> of energy needs in crisis response plans;

(iii). *Post-crisis phase:* scaling up sustainable energy solutions for stabilization and <u>recovery</u> from conflicts and disasters through installation and deployment of renewable energy solutions for long-term development at the local level.

Sustainable energy access is important in a number of different ways in the crisis response, recovery and stabilization phases. Energy should be considered during the onset of the crisis. This should include energy programming so the immediate response can focus on short-term supply options, such as the provision of quick fix mobile renewable energy options and cooking fuels. This would enable humanitarian and development organizations to react quickly and provide basic services as an immediate means of response to crises or disasters to address acute needs. In countries that face protracted conflicts, such as in Libya, Syria and Yemen, there are generally overlaps in the first two phases of pre-crisis and the onset of crisis. In the recovery and stabilization phases, long-term sustainable energy support can be considered, for example, by developing market-based sustainable energy solutions coupled with livelihood approaches, which seek to revive and support the recovery of local economies and entrepreneurs while also building resilience to future shocks. Stabilization and recovery from crisis can be aided by reliable energy supplies, such as electrification of hospitals and community spaces and provision of streetlights. This would enable local communities to feel safer and have access to improved services. Investment in energy planning is also vital in preparedness phases by developing sustainable energy responses and recovery plans to ensure "building forward better" and delivering future-proof energy and clean energy transition (climate) investments while simultaneously engaging communities in decision-making about their energy futures. The UN has recognized environmental degradation, climate change and climate-related security risks as some of the most pressing global concerns[12].

4. What should be done moving forward?

Figure 2 highlights a number of different policy and implementation activities that can be undertaken based on lessons and UNDP experiences in the pursuit of closing the energy gap in fragile and crisis-ridden countries.

Figure 2: Up-stream and down-stream policy sustainable energy activities.
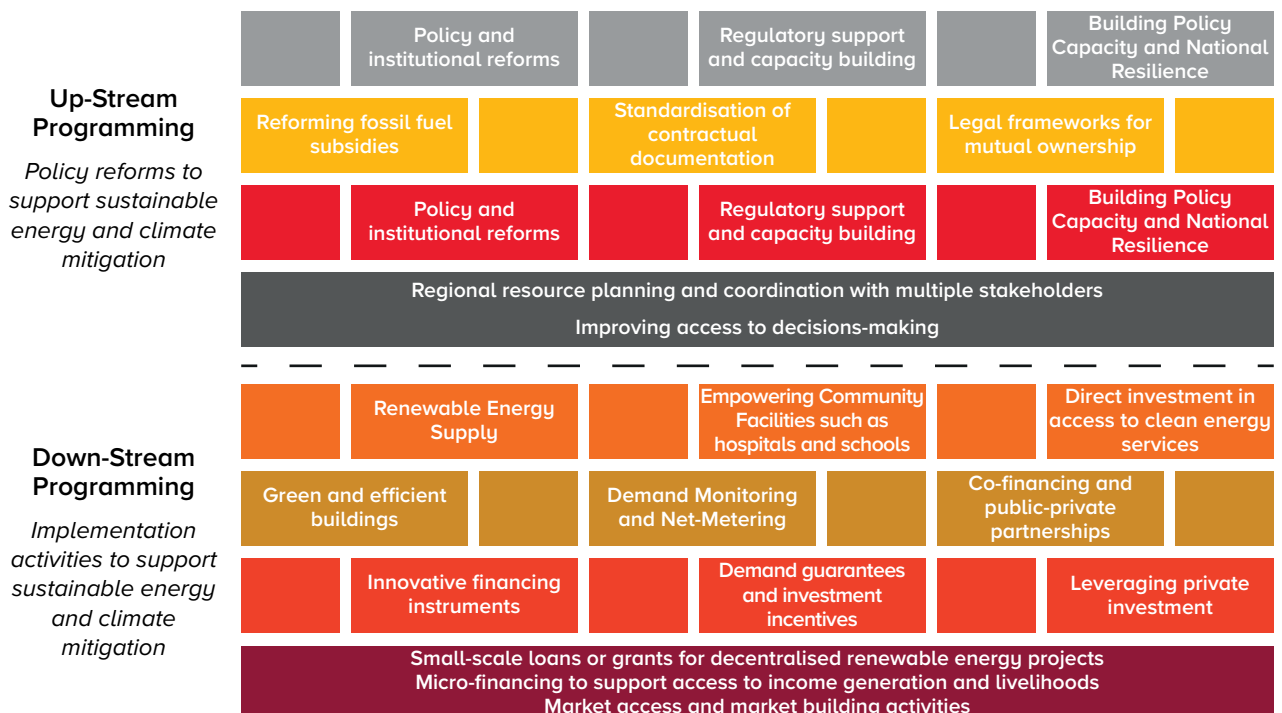
- *Renewable energy solutions:* Increasingly, renewable solutions, specifically solar technologies, have been deployed across the Arab region. The decreasing cost of solar energy has meant that many local communities can now afford to invest in standalone and decentralized solutions. Investment in solar energy, including community-owned mini-grids, is supported by UNDP to increase access and reduce the costs of energy and to enable emission reductions across the region.

- *Inclusivity, Local and Community-Based Initiatives:* Working inclusively with communities and beneficiaries is central to UNDP work in the Arab States. Projects and programmes related to energy needs should be built from the bottom up, co-designed directly with end-users and include the specific needs of women. Inclusivity is key here, as beneficiaries and end-users must be included throughout the programming cycle to ensure they are active participants in both the design and implementation of solutions[13].

- *Electrifying both community facilities and households:* Previous forms of investment have often focused on supplying household level electricity. However, in recent years it has been recognized that energy users move fluidly between different public spaces and, therefore, it is important to provide solutions that meet both household and community needs. For example, local renewable energy solutions should focus on improving energy access of health clinics with improved refrigeration of medicines and lighting in emergency rooms, expanding access to power in schools for lighting and electronic teaching and learning aids, providing clean and efficient heating solutions in refugee host communities, installing solar street lighting in host communities for the safety of women and girls and using solar pumping for recovery of agricultural livelihoods.

- *The role of local private-sector and micro-entrepreneurs:* During crises, national governments are sometimes unable to meet the energy needs of communities. In such situations, local private sector and individual "micro-enterprises" step-in to provide decentralized, often solar solutions[14]. Development and humanitarian interventions should work with and through these suppliers to ensure investment in local economies and strengthen existing supply chains.

- *Resilience-based approaches:* These can support preparedness and risk reduction ahead of potential future crises. Resilience-based approaches entail enacting the right polices through, for instance, national response and disaster risk reduction plans that seek to improve living conditions and reduce the vulnerability for all people to secure affordable and adequate access for basic energy services and deployment of locally suitable technologies. This will help achieve community needs in rapidly shifting high-risks contexts and crisis situations including protracted displacement.

- *Strong, local, technical capacity alongside political leadership:* This is required for sustainable energy solutions to be implemented effectively. In addressing these challenges, countries also engage UNDP's strong local presence in crisis contexts, as well as its global expertise and leadership in advancing sustainable energy. This is also encouraged through technical leadership organizations, such as the Global Platform for Action (GPA) on Sustainable Energy in Displacement, hosted by UNITAR[15].

- *Custom solutions:* A one-size-fits-all approach is often not appropriate in such crises and high-risk situations, especially given the highly contextualized needs of IDPs and conflict-affected communities and the evolving gender dynamics. Therefore, projects are developed using a tailored response approach. Sustainable energy activities are custom designed around the needs within a specific country; complementary projects are designed alongside other international and national investments; and development and growth considerations are placed at the heart of energy responses. A tailored approach is needed for crises, given the high levels of complexity, reduced capacity of institutions and policies, limits on domestic finance and lack of information on energy needs. Decentralized and tailored solutions offer opportunities for crisis-affected communities to recover and become resilient to future shocks and crises.

- *Innovative business and delivery models:* Innovation in energy systems stems not only from technologies, but also from process innovation in investments in new ways of working and delivering sustainable energy solutions. Delivery models have moved beyond the traditional procurement and supply methods linked to free distribution of energy products to produce new partnerships and modes of intervention[16]. These also include innovative ways of curating new ways of engaging the private sector and attracting financing through diverse partnerships especially in increasing activities to scale.

- *Working in Partnership:* UNDP has developed strategic regional and national partnerships over the past years in sustainable energy programming. With growing clarity as to the

potential of sustainable energy in accelerating recovery and building resilience, a need exists for partners to collaborate and scale-up cooperation and results. UNDP will continue to work with strategic partners including host governments, UN agencies, the League of Arab States, the Arab Water Council, International Renewable Energy Agency, the Global Environment Facility, the Green Climate Fund and international finance institutions (such as the World Bank, African Development Bank and the Islamic Development Bank). It will also work with community groups and the private sector to mobilize expertise from across the range of stakeholders and the UN system (such as the GPA), and key financing partners supporting the

green energy transition agenda in the region. This includes but is not limited to the European Commission, Germany, SIDA, the Qatar Foundation, the Kuwait Fund, JICA, KOICA, the Netherlands, the OPEC Fund for International Development (OFID) and development funds from the Saudi Arabian Government.

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Endnotes

1   **Authors:** Denis Korchunov, Regional Energy Specialist, UNDP, email: denis.korchunov@undp.org; Sarah Rosenberg-Jansen, Individual Consultant, Research Fellow at the University of Oxford, email: sarah.rosenbergjansen@gmail.com. **Acknowledgments:** The authors would like to thank UNDP colleagues for their review and helpful comments to this brief: Sujala Pant, Regional Project Manager; Stephen Gitonga, Regional Sustainable Energy Specialist; Saliou Toure, Technical Specialist; Ronald Jackson, Head Disaster Risk Reduction & Recovery for Building Resilience; Angelika Planitz, Team Leader, Disaster & Climate Risk Governance; Benjamin Basmaci, Climate Change Specialist; Nora Isayan, Communication Specialist.

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