

Mini-/Micro-grids for Refugee Camp Settings

A Side Event at the Safe Access to Fuel and Energy (SAFE) Humanitarian Workshop

CONCEPT NOTE

Nairobi, Kenya
December 1, 2017

Background

Energy supply for refugees and displaced people is rarely at the top of the agenda for humanitarian groups or host countries. Food, shelter, and medical care often take precedence. While these areas are part of the solution to improving humanitarian relief services, lack of energy access impacts their delivery and sustainability, and a lack of focus on energy means that potentially better and more integrated solutions to providing humanitarian relief are being missed.

This is particularly true for the provision of electricity. By some estimates, 80% of the 8.7 million refugees and displaced people in camps have no access to electricity¹. In its absence, people typically use kerosene lamps or candles for lighting, which are unsafe, unhealthy and inefficient. When more modern forms of electricity are available, they usually take the form of solar lanterns, which constitute a significant improvement over kerosene and candles – but still only provide basic levels of electricity access. Larger sources of power, such as diesel gen sets, are usually the main source of power for camp facilities and refugee enterprises with high per kWh costs due to transport of fuel to remote locations, inefficient loading and poor maintenance, as well as climate and environmental impacts.

Despite being designed as temporary solutions, these energy services are usually extended for many years in an ad hoc and inadequate manner. Indeed, the average life of a refugee camp is 26 years², and the lack of long-term planning, resources, and capacity dedicated to energy services means that opportunities are being missed to improve both the quality of life of displaced people and host populations, and the effectiveness of camp operations - in both the short- and the long-term.

One of these opportunities is to use clean energy mini-/micro-grids³ as well as hybrid energy solutions to provide more established refugee camps and settlements with their own, continuous power supply. As such, adapted to a camp setting, clean energy and hybrid mini-/micro-grids can generate many benefits

¹ Lahn, G. & Grafham, O. (2015) Heat, Light and Power for Refugees: Saving Lives, Reducing Costs, Chatham House for the Moving Energy Initiative. mei.chathamhouse.org/resources/

² Lahn, G. & Grafham, O. (2015) Heat, Light and Power for Refugees: Saving Lives, Reducing Costs, Chatham House for the Moving Energy Initiative. mei.chathamhouse.org/resources/

³ Mini-/micro-grids are broadly defined as village, town or district-scale electrical distribution networks either unconnected to, or able to operate autonomously from, the main electrical grid, serving multiple customers with some ground-based infrastructure and the ability to operate autonomously.



for camp inhabitants, hosts, camp operators, and for the environment. Yet their adoption in humanitarian settings remains limited due to a shortage of information as well as lack of awareness, resources and capacity within in the humanitarian system to evaluate, plan and manage the provision of mini-/micro-grids.

About the Event

Goals

On the occasion of the 2017 Safe Access to Fuel and Energy (SAFE) Humanitarian Workshop, the UN Foundation is hosting – in collaboration with the SAFE Working Group – a day-long side event dedicated to clean energy mini-/micro-grids (including hybrids) in refugee camps settings. The purpose of the event is to:

- Raise awareness among humanitarian agencies about the role clean energy mini-/micro-grids can play in powering refugee camps and saving costs overall;
- Identify key barriers and potential approaches to deploying clean energy mini-/micro-grids in refugee camps; and
- Help mini-/micro-grid practitioners – particularly those from the private sector – learn about opportunities to engage with humanitarian organizations, and vice-versa.

Topics

The event will be organized around the following thematic topics:

- Introduction to mini-/micro-grids and their potential uses/benefits in refugee camp settings;
- Technical considerations and requirements for mini-/micro-grids (incl. hybrid energy solutions), specifically in the context of resource-constrained camps;
- Case studies / best practices for existing mini-/micro-grids specifically adapted to the needs of refugee camps (inhabitants and operators);
- Business models and financing mini-/micro-grids in humanitarian applications.

About the Partners

The United Nations Foundation

The UN Foundation was created 18 years ago around philanthropist and media pioneer Ted Turner's historic \$1 billion gift to the United Nations. Since then the Foundation has granted more than \$1.4 billion to the UN and UN causes through leveraged support with partners. Today, the Foundation draws upon a diverse set of capabilities beyond grant-giving to support the UN's leadership in global problem-solving around key issues.

The UN Foundation is committed to connecting people, ideas, and resources to help drive access to affordable, reliable, sustainable and modern energy for all. The UN Foundation builds momentum and high-level support for energy access by creating and leading pioneering initiatives that support new ways of expanding energy access – particularly through clean distributed energy – while ensuring that they address the needs of vulnerable and hard to reach people. Two such initiatives are the Energy Access



Practitioner Network and the Mini-grids Partnership, which unify and coordinate the distributed clean energy sector, accelerate learning and action, broker partnerships, and advocate for change. These initiatives also facilitate peer-to-peer learning and match-making among practitioners, investors and decision-makers; improve market intelligence and performance; and disseminate up-to-date information, opportunities, and resources through the world's largest networks of companies and stakeholders doing groundbreaking work in the energy access space.