IRENA
International Renewable Energy Agency

Ninth session of the IRENA Assembly

Thematic meeting
10 January 2019, 09.30 - 11.00
St. Regis Hotel, Saadiyat Island, Abu Dhabi
Room B1

Solar Opportunities for Developing Cities

Background

Rapid urban growth and innovation in the energy services landscape, such as net-metering, micro-grids and electric mobility, are increasingly stretching the boundaries of traditional electricity supply systems. At the same time, these trends present opportunities for the rapid adoption of new and cleaner energy sources to the supply mix, and they give consumers of energy more control of their demand.

Cities are particularly well positioned to benefit from these trends. Already, cities are continually demonstrating commitment to embrace sustainable practices due to a variety of reasons including concerns about climate change. For instance, 9,000+ mayors from 127 countries pledged to act on climate change under the Global Covenant of Mayors for Climate and Energy.

In this context, urban energy planning is becoming increasingly important. As such, simulation tools are required to fully explore the opportunity of deploying solar PV at the level of local municipal jurisdictions. This helps relevant authorities to take full advantage of these trends in innovation and secure access to climate-friendly, affordable and reliable energy supplies.

IRENA is in the process of demonstrating a tool specifically designed for deployment in cities of developing countries. The "SolarCityEngine" – IRENA's solar PV rooftop simulator – is currently in development and will support municipal authorities, businesses and home owners in assessing the feasibility of rooftop solar PV installation.

The SolarCityEngine will provide options for municipal authorities to empirically examine the impact of selected incentives, e.g., tax rebates or credits, in making rooftop installations more affordable to their citizenry. It will also support individual analysis at the level individual homes and businesses to assess the profitability or savings that may arise from considering solar PV installations on their properties.

The software, which is currently being built for demonstration for Kasese (Uganda) and Zhangjiakou (China), leverages on the expertise and infrastructure of the Agency's Global Atlas for Renewable Energy. It is also backed by an in-depth study* of the evolution of "solar PV simulators" as tools used in assessing the potential for solar-powered homes and businesses. Specific case examined in this study that warrant the use of these simulators include, target setting, policy design and market facilitation.

IRENA (2019), Solar Simulators: Application to Developing Cities

Objective

Building on the outcome of this latest study by IRENA, this event will bring together representatives of cities in developing countries – municipalities and urban planners - and solar rooftop modelling experts. The session will offer an opportunity for Members and key stakeholders to:

- Learn about the potential policy design benefits derived from the Rooftop Simulators when examining the prospects for a rooftop solar market in their countries
- Highlight successful examples where these simulators have been used to benefit the urban planning process
- Discuss ongoing efforts by IRENA to demonstrate this system in two cities in developing countries

Guiding questions

- What key challenges should municipalities and city planners in developing countries to address when examining potential options for energy supply in their cities?
- How are these challenges currently being addressed?
- How can the current solar modelling technologies provide relevant information to tackle challenges of access, reliability and affordability of energy services in developing countries?

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Thematic meeting
10 January 2019, 14.00 - 15.30
St. Regis Hotel, Saadiyat Island, Abu Dhabi
Room A2

The Future is RE-Electrification

Background

A global energy transition is underway across the world. New global trends are emerging, related to low renewable energy costs, system integration and flexibility, distributed generation and digitization. The rapid cost reduction and deployment scale up of renewable power generation technologies, particularly solar PV and wind, opens opportunities to use renewable power as the energy carrier to transform the energy use in transport, building and industry sectors.

Along with major policy imperatives for decarbonisation and energy access, this means the supply of clean electricity will be greater, and demand for clean electricity will be wider than ever before. IRENA estimates that a deep decarbonisation of the energy sector would require a 50% share of electricity in the Total Final Energy Consumption (TFEC) by 2050, doubling 2015 share.

RE-electrification is the virtuous circle that links electrification of end-use sectors and higher shares of renewable energy – a key component to ensuring the transition to greater electrification is clean, economically rewarding, and secure. The thematic event will focus on providing delegates with the latest country and sectoral experiences in electrifying end-use sectors.

The discussions will be informed by the findings from the report 'The Future is RE-Electrification', a joint work between IRENA and the State Grid Corporation of China to obtain a more in-depth knowledge on how to define strategies to unlock the synergies between renewable energy deployment and electrification of end-use sectors.

Objective

This thematic event will focus on providing delegates with the latest country and sectoral experiences in electrifying end-use sectors, particularly through renewable electricity.

Guiding questions

- What are the key strategies for mutually beneficial increases in renewable energy and electrification?
- What are the key barriers to increasing renewable electrification?
- What are the key enabling factors (e.g. infrastructure, market design, etc.) to unlock synergies between electrification and renewables?
- What are concrete steps governments can take to enable increased renewable electrification?

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Room B1

Renewable Energy Solutions in Refugee Settings and Situations of Displacement

With less than one billion people still not having access to electricity, it is essential for national governments to accelerate the deployment of sustainable and low-carbon energy solutions to meet the objectives of the Paris Agreement and the UN SDGs. Currently, there are around 68.5 million people displaced worldwide and among them are about 25.4 million refugees, of which over half are under the age of 18.

The high costs experienced by the United Nations High Commissioner for Refugees (UNHCR) and other organisations in operating and maintaining refugee camps as well as for purchasing diesel for generating electricity through generators further underlines the necessity of delivering environmentally friendly, reliable and cost-effective solutions in of displacement.

In this regard, IRENA has been working with UNHCR to examine renewable energy solutions for the provision of access to reliable and affordable electricity to refugees, host communities and UNHCR operations. IRENA's work with UNHCR is expected to contribute to the development of the new energy strategy 2019-2023, which will replace the current 2014-2018 Global Strategy for Safe Access to Fuel and Energy (SAFE).

The main objective of this collaboration is to assess current and expected future energy usage in four refugee camps and identify renewable solutions for a more reliable and affordable energy supply. Many partner organisations are also supporting UNHCR in this endeavour. The Global Plan of Action for Sustainable Energy Solutions in Situations of Displacement (GPA) brings together international organisations and other partners. The GPA is a framework that outlines concrete actions to accelerate progress towards the vision of safe access to affordable, reliable, sustainable, and modern energy services for all displaced people by 2030.

Objective

UNHCR will present the challenges of providing access to reliable, affordable and clean energy to refugees and how renewables can address this challenge. IRENA will provide some insights on the ongoing work in support of UNCHR in the development of a blueprint for renewable energy supply in selected UNHCR-refugee camps.

This session will provide an overview of the energy situation in humanitarian operations and provide examples from the field, highlighting how renewable energy can help addressing multiple dimensions of the challenge of supplying affordable, reliable and clean energy in situations of displacement.

Guiding questions

- What are the key challenges faced in providing affordable, reliable and sustainable energy access to refugees and displaced people?
- Why is it necessary to engage and involve the private sector and how can this be done?
- What can be done to scale up solutions and improve financing for renewable energy projects in displacement settings?

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