

Ministerial Roundtable

“Catalysing Off-Grid Renewable Energy Deployment towards Universal Electricity Access and Sustainable Development Goals (SDGs)”

Ninth session of the Assembly – 11 January 2019, 15.00 – 18.00

Introduction

1. Off-grid renewable energy solutions have emerged as a mainstream solution to expand access to modern energy services in a timely and environmentally sustainable manner. The deployment of stand-alone and mini-grid systems has witnessed tremendous progress over the past few years as technology costs have plummeted, innovation in deployment and financing models has picked up, and a diverse set of stakeholders, including local entrepreneurs, the private sector and financing institutions, have become engaged in the sector.
2. IRENA estimates that the population served by off-grid renewables globally has expanded six-fold since 2011, reaching nearly 133 million people in 2016. Besides providing affordable energy for lighting and cooking, off-grid solutions are also supporting the delivery of public services (e.g., education, water and primary health care), sustainable livelihoods and other commercial and industrial needs.
3. Off-grid solutions will play an important role in reaching universal modern energy access by 2030. It is estimated that by 2030, renewable energy sources will power over 60% of new electricity access, and stand-alone and mini-grid systems will provide the means for almost half of new access, thus making valuable contributions to Sustainable Development Goal (SDG) 7 target on energy access.

Harnessing the off-grid renewable energy opportunity for Sustainable Development Goals

4. The impressive growth in off-grid renewables is a result of rapid advances made in the areas of delivery and financing models, policies and regulations, institutional frameworks, capacity building, technology innovation, and cross-sector-linkages. Rapid decreases in the cost of technology has unlocked new markets and applications for off-grid renewable energy solutions, ranging from household-based lighting, to powering telecommunication and agricultural equipment. Coupling innovations in delivery models and financing, including linking pay-as-you-go with mobile payments, has tremendously improved the reach and access of off-grid systems in remote, rural areas.
5. A number of governments have taken measures to provide an enabling environment to support a further scale-up of deployment. Many have established dedicated agencies (e.g., rural energy agency), mainstreamed off-grid solutions in national energy access strategies, set targets and devised tailored policies and regulations for the sector. Several countries, for instance, have introduced dedicated regulations for the mini-grid sector to address key investment risks such as licensing, tariff setting and main-grid integration. IRENA’s recent report *Policies and regulations for private sector mini-grids* finds that while countries are increasingly addressing key policy and regulatory risks related to mini-grids, efforts are needed to improve the broader environment covering regulations related to company formation, environmental and social assessment, data, banking regulations, among others.



6. Investments in the off-grid renewable energy sector continue to grow at a fast pace. In the off-grid solar sub-sector alone, investments have doubled annually between 2012 and 2016. Access to long-term financing at affordable rates can bring off-grid products and services within the reach of millions of end-users. Successful examples can be found with the micro-finance ecosystem in Bangladesh and the integration of mobile payments and pay-as-you-go in East Africa. Some of these innovations are being replicated to support deployment of off-grid solutions across sectors (e.g., ‘pay-as-you-grow’ for solar irrigation solutions). Alternate financing instruments, such as crowdfunding, are also increasingly being used to raise funding when traditional financing is not available or is too costly. It is estimated that in 2016, at least USD 8.7 million was raised through crowdfunding platforms for energy access projects in Africa and Asia, up 156% from 2015 levels.
7. Technology innovation continues to play an important role in enhancing the attractiveness of off-grid solutions. Introduction of quality and standards and improvements in the efficiency and reliability of generation systems (e.g., solar modules), balance-of-system components (e.g., inverters, batteries, metering), as well as appliances (e.g., LEDs, televisions) has brought down costs and ensured long-term operation. Local actors, including manufacturers and private sector, are also playing a role in repurposing/adapting technology solutions to local conditions (e.g., end-uses, affordability, availability of skills and material).
8. Off-grid renewable energy solutions represent a not-to-be-missed opportunity for meeting universal modern energy access by 2030. Mirroring the energy transformation taking place globally, it offers the opportunity to develop an energy system that is decentralized, equitable, tailored to the local needs, affordable and climate-proof. Importantly, an energy system that underpins socio-economic development towards the SDGs and leaves no one behind.

Creating inclusive frameworks to support local entrepreneurs

9. Local entrepreneurs need to be empowered and adequately supported in terms of policies, financing and capacity building to ensure that off-grid solutions are accessible to all. This requires a careful attention on the inclusiveness dimension. For instance, between 2012 and 2017, pay-as-you-go enterprises raised over USD 770 million with just four companies accounting for 67% of all investments. Whether a stand-alone solar home system distributor, or a mini-grid project developer, an international energy utility or a local entrepreneur, the financing needs vary greatly and establishing tailored channels for investment flows will be critical to scale-up deployment.
10. Capacity building measures are important to develop the skills base needed to support the sector. Many of the skills needed along different segments of the off-grid supply chain can be developed locally, with limited pre-requisite education or experience. The skills requirement is not limited to technical alone, and also cover business skills, especially focused on local entrepreneurs. IRENA’s Entrepreneurship Promotion Facility in West Africa (in partnership with ECREEE) provided mentorship support and advisory assistance to over 80 SMEs on technical aspects (system sizing, installation guidelines, etc.), business management and operations, and project proposal refinement.
11. Energy access programmes need to integrate gender to ensure equitable access to opportunities and benefits for both men and women. In addition, the importance of access to training and skill development, and providing training opportunities should be prioritized, as well as improving access to financing for women entrepreneurs in the renewable energy.



Leveraging multi-stakeholder partnerships to scale-up deployment

12. Achieving universal access requires concerted efforts from stakeholders across the off-grid renewable energy value chain. To provide an inclusive, collaborative platform to facilitate multi-stakeholder partnerships and exchange of knowledge, IRENA has been convening the International Off-Grid Renewable Energy Conference and Exhibition (IOREC), every two years since 2012. IOREC provides the space for regulators and policy-makers, rural electrification agencies, private sector practitioners, financing institutions, civil society and development partners to share experiences and best practices in off-grid renewable energy and to collectively identify pathways to accelerate modern energy access.
13. The fourth edition of IOREC took place from 31 October to 1 November 2018 in Singapore, during the Singapore International Energy Week and alongside the ASEAN Ministers on Energy Meeting. The conference hosted dynamic discussions and some of the key emerging messages include the importance of energy access in achieving the wider development agenda and mainstreaming off-grid solutions in energy access strategies, putting in place enabling policies and regulations to incentivize private investment and alleviate risks, tailoring financing frameworks for different end-users and enterprises in the sector, developing adequate capacity across the value chain, and harnessing the cross-sector potential through productive end-use development and linking to public service delivery.
14. As part of IRENA's continuing efforts to support cross-sector deployment of off-grid renewables in contribution to multiple SDGs, IRENA organised the first International Conference on Renewable Energy Solutions for Healthcare Facilities on 2 November 2018, back-to-back with IOREC 2018. The conference convened stakeholders from the health and energy sectors to create a platform for cooperation to address the urgent need represented by the one billion people that today are served by health centres without electricity, and that therefore cannot have access to adequate healthcare services. Some messages from the conference include the need to prioritize electricity provision to healthcare facilities in the electrification strategies developed by countries and development partners, increase cooperation between the health and energy communities (in particular between the ministries of health and ministries of energy, on key aspects such as budget, procurement and implementation), promote dedicated financing schemes, facilitate partnerships between private, public and non-governmental institutions, support innovation in energy delivery models for rural health centres.

Objective

15. The Ministerial Roundtable will be an important opportunity to showcase through practical examples the transformative impact off-grid renewable energy solutions can have on improving modern energy access and contribute to country's SDGs across multiple sectors. It will also serve as a platform for Members to share their experiences in deploying off-grid solutions and specific measures taken. Members will also have the opportunity to provide feedback on the Agency's activities and guidance on future work.

Guiding questions

16. The session will focus on the following:
 - To what extent are off-grid renewable energy solutions being mainstreamed into national and regional energy access strategies?



- How is the link between renewable energy and other SDGs (including water, agriculture, health, employment) being integrated into the design and implementation of policies to maximise socio-economic benefits?
- How can supporting measures for off-grid renewable energy solutions (e.g., policies, financing, capacity building) be designed to ensure inclusiveness?
- What are the priority areas for IRENA to further support the creation of an enabling environment for off-grid renewable energy technologies?