

Stakeholder Workshop

Identifying Technology Innovation Needs and Opportunities Under Mission Innovation Challenge n°2: Off-grid Access to Electricity

Wednesday 12 July 2017 (09h30 – 17h30)

OECD Conference Centre (Room CC4), 2 rue André Pascal, 75016 Paris, France

Context

Energy is the bedrock of modern life, vital to economic development, social equality, health and longevity. Yet, according to the International Energy Agency's (IEA) World Energy Outlook (WEO, 2016), an estimated 1.2 billion people – 16% of the global population – did not have access to electricity in 2014. On average, these families spend between 1 and 2 USD/week just for lighting, using fossil fuels. The same IEA report identified 633 million people in Africa without access to electricity, and the World Bank estimates sub-Saharan Africa spends USD 10.5 bn/year on candles and kerosene for lamps. In other regions, isolated communities, for example on islands or in remote areas, are not connected to a large electricity grid and rely on often ageing diesel powered generators. But as technology costs come down, the economics of renewable systems, as part of off-grid systems, become more attractive than those of the main alternative and are often already competitive. The IEA has been consistently raising the importance of energy access on the international agenda. This topic is to be a special focus of the *WEO-2017* series, which will include a dedicated study on *Energy Access Outlook: from Poverty to Prosperity*.

Mission Innovation (MI) is a global initiative, which aims to dramatically accelerate global clean energy innovation. Participating countries have committed to double their governments' clean energy research and development (R&D) investments over five years to 2021. MI Innovation Challenges were developed through a collaborative process between MI members to catalyze global research efforts. The second out of seven Innovation Challenges (IC) focuses on off-grid access to electricity and aims to develop systems that enable off-grid households and communities to access affordable and reliable renewable electricity. For individual homes, the objective is to reduce significantly over the next 5 to 10 years the price of renewable power systems for lighting and communication device charging, while expanding the range of services deliverable on household systems. For remote communities, the objective is to demonstrate, over the next decade, in diverse geographic and climatic conditions, the robust, reliable and autonomous operation of renewable power systems up to 100 kilowatt at a significantly lower cost than today.

Scope and Objectives

This Stakeholder Workshop hosted by the IEA in collaboration with the French Ministry for the Ecological and Inclusive Transition, and the French Environment and Energy Management Agency (ADEME) will focus on identifying R&D gaps and opportunities regarding off-grid access to electricity, so as to help implement the work plan of MI Innovation Challenge n°2. It will also serve to highlight successful existing projects, allow participants to share best practices and will offer an opportunity to:

- Build further consensus on priority actions for the implementation of MI Innovation Challenge n°2
- Discuss targets and possible metrics to measure progress against implementation
- Identify stakeholders for the implementation of innovative solutions and products

Agenda

OPENING	Welcome and opening remarks
9:30 – 10:00	<ul style="list-style-type: none"> • Mission Innovation - Laurent Michel, Director General, French Ministry for the Ecological and Inclusive Transition • ADEME – Fabrice Boissier, Director General • IEA – Dave Turk, Acting Director for Sustainability, Technology, and Outlooks

SESSION 1	Mapping the state of energy access and off-grid systems
10:00 – 11:20	<p><i>Although there has been much progress in expanding access to modern energy services, the world is not yet on track to achieving sustainable energy for all by 2030. This continues to serve as an impediment to economic and social development. The aim of this session is to discuss the current state of off-grid access to electricity, the pace of progress and paths being pursued, with a particular focus on positive examples that others may follow.</i></p> <p><u>Moderator:</u> ADEME - Francois Moisan, Executive Director of Strategy, Research and International Affairs</p> <p><u>Interventions:</u></p> <ul style="list-style-type: none"> • IEA – Laura Cozzi, Head of the Energy Demand Outlook Division (WEO) • International Renewable Energy Agency (IRENA) – Emanuele Taibi, Power Sector Transformation Strategies • India - Vineet Saini, Principal Scientific Officer, Technology Mission Division, Department of Science & Technology • United Nations Development Programme (UNDP) - El Hadji Diop, Co-ordinator IEEIES Platform Senegal

Coffee break (20 mins)

SESSION 2	R&D and innovation needs in the field of off-grid access
11:40 - 13:00	<p><i>Renewable electricity systems (based on PV, wind, small hydro etc. depending on local resource) should respond to the needs of single families or remote communities (from the kilowatt level to 100s of kilowatts) without access to grid or still relying on inefficient fossil fuels. Research and development (R&D) is needed to bring down the cost of these solutions and enhance the range of energy services they can provide, either to equip people with no access or to modernize existing systems by switching to renewable energy. Innovation is also needed to enhance availability of energy services such as installation, operation and maintenance as well as addressing standardisation issues.</i></p> <p><i>Panelists will address these crucial needs and also offer views on tools and funding mechanisms to support technology development and deployment for affordable access to electricity by off grid households and communities. All participants will be invited to consider collaborative approaches in support of clean, off grid energy demonstration and pilot projects, feeding into the value proposition of MI Challenge n°2.</i></p> <p>2.1. Panel debate on solutions</p> <p><u>Moderator:</u> IEA - Paolo Frankl, Head of the Renewable Energy Division</p> <p><u>Keynote:</u> Energy Generation - Astria Fataki, President and winner of AEEP Young Energy Leaders Award 2017 (France/Togo); and Abel Kidane, winner of Africa Energy Generation Prize 2016 (Ethiopia)</p> <p><u>Panellists:</u></p> <ul style="list-style-type: none"> • French National Solar Energy Institute (INES) - Philippe Malbranche, Director-General • European Commission – Fabio Belloni, Policy Officer • Schneider Electric – Thomas Andre, Access to Energy Strategy Director • IEA Photovoltaic Power Systems TCP (PVPS TCP) - Stefan Nowak, Chair of the Executive Committee • IEA Wind Energy TCP – Ignazio Cruz, Operating Agent Small Wind Project • French Development Agency (AFD) - Christian de Gromard, Project Manager

Lunch (60 mins)

- SESSION 2** **2.2 Panel debate on innovative business models**
(CONTINUED) **Moderator: Natural Resources Canada** - Lisa Dignard-Bailey, Director of Integration of Renewable and Distributed Energy Resources Program
- 14:00 –** **Keynotes:**
15:30
 - **Massachusetts Institute of Technology (MIT)** - Robert Stoner, Director of the MIT-Tata Center for Technology and Design
 - **ODYSSEY** - Cathy Zoi, President and Co-Founder
- Panellists:**
- **Practical Action** - Aaron Leopold, Global Energy Representative
 - **Mobisol** - Thomas Duveau, Chief Strategy Officer
 - **Electricien sans Frontière (ESF)** - Marc Gratton, General Manager
 - **M-KOPA** – Jon Ridley, Director, M-KOPA Labs
 - **Clean Energy Works** – Holmes Hummel, Founder

- SESSION 3** **Stakeholder engagement**
15:30 – *Access to affordable, low-carbon electricity for rural and urban households is a major challenge at the global level and is identified as one of the UN's Sustainable Development Goals. Several international programmes and institutions are involved. While many R&D programmes conducted in MI countries aim at improving the performance of renewable electricity production and management (PV, wind, storage, smart grids...), relatively few public innovation programmes are targeting specifically low-cost, small-scale systems. This session will seek to connect non-state actors and stakeholders, converging efforts under various partnerships in support of off-grid energy access.*
17:00

Panel Debate: linking partnerships to accelerate technology solutions

Moderator: Ministry of Foreign Affairs of the Netherlands - Frank van der Vleuten, Senior Renewable Energy Advisor

Keynote:

- **United Nations Environment Programme (UNEP)** – Mark Radka, Head of the Energy and Climate Branch, Economy Division

Panellists:

- **GOGLA** – John Keane, Program Manager
- **RES4AFRICA** - Marco Aresti, Program Manager
- **Acumen** – Kat Harrison, Associate Director, Impact & Lean Data
- **Power for All** - Kristina Skierka, CEO

- 17:00 – 17:30** **Closing remarks and wrap up**
- **ADEME** - Francois Moisan, Executive Director of Strategy, Research and International Affairs
 - **IEA** – Dave Turk, Acting Director for Sustainability, Technology, and Outlooks

This workshop will be informal in nature and held under the Chatham House Rule, according to which participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed. Attendance is by invitation only.