WORKSHOP
"Renewable Energy and Innovation towards Sustainable Energy for All"

Museo Nazionale della Scienza e della Tecnologia "Leonardo da Vinci"
Milano, via San Vittore 21, June 17th, 2015

Access to "modern" energy can be defined as (a) access to electricity and/or (b) a clean and efficient way of cooking food and heating the home, i.e. overcoming the systematic reliance on traditional biomass (wood, charcoal, animal dung) and the traditional, inefficient way of burning it without protection, with the effect of producing indoor pollution and causing serious diseases.

There is wide consensus on the objective of eliminating the twin gaps and reaching a world access to "modern" energy. The UN initiative "Sustainable Energy for All" sets 2030 as the target year.

Yet, the forecasts reported in the International Energy Agency publications indicate that the present gaps will both persist by 2030.

What may make the difference between success and failure

In the construction of scenarios, two variables are crucial.

One is the development of the **generation of energy from renewable sources**. Such development is desirable for well-known reasons, primarily linked to environmental preservation; yet it is also decisive in the policies to enlarge access to electricity and to clean fuels for cooking and heating.

The oldest renewable source is hydro power. Important reserves exist in Africa, Asia and Latin America, and part of these can be exploited without damage for the environment. Besides the few very large investment projects, many small and very small projects can feed local networks or mini-grids to serve communities.

Electricity can be generated by the "new" renewable sources, solar and wind, which are particularly apt to bring electricity to communities dispersed in large areas, where mini-grids or even off-grid isolated generation is the most economic solution.

The potential contribution of these sources to the objective of SE4A is large. In fact, approximately three quarters of the world population without access to electricity live in areas where development of the grids is not foreseen.

Renewable sources such as biomass are largely available to produce thermal energy for domestic and business uses. Here the challenge lies in the search for clean and efficient ways to transform biomasses into useful energy.

The other variable is **the development of technology**. There are two areas where technology is progressing fast and with a significant impact on the availability of energy in remote areas, beyond generation from renewable sources: (a) storage of electricity, (b) smart grids that can combine intermittent generation from solar and wind sources with flexible generation from various sources, storage devices and flexible demand.

WAME
World Access to Modern Energy

EXPO MILANO 2015

PROGRAMME

2:00 pm **Arrival and Registration**

2:30 pm **Welcome**

Pippo Ranci, *WAME President*
Roberto Ridolfi, *Director for Sustainable Growth and Development, EUROPEAID*
Giampaolo Cantini, *Director General for Development Cooperation, MAECI*

Moderator Elena Comelli*, journalist specializing in energy and technological innovation*

3:00 pm **Keynote speech**

Innovation and Sustainable Energy for All
Claude Henry, *IDDRI Sciences Po Paris and Columbia University New York*

First Session: Renewable Energy

3:20 pm **Electric systems and the growth of renewable generation**
J. Ignacio Pérez-Arriaga, *MIT Cambridge MA. and Comillas University Madrid*

3:35 pm **Policies to promote rural electrification through renewable energy**
Salvatore Vinci, *IRENA, International Renewable Energy Agency*

3:50 pm **The challenge of implementation**
Riccardo Amoroso, *Director for Innovation and Sustainability, Enel Green Power*
Elena Casolari, *ACRA-CCS NGO and Alliance for Rural Electrification*

Second Session: Innovation

4:20 pm **Technical advances in generation from renewables**
Chris Case, *Chief Technology Officer, Oxford PV*

4:35 pm **Starting from the Bottom of the Pyramid**
Shyama Ramani, *Professorial Fellow at UNU-MERIT (United Nations University) and Maastricht University*

4:50 pm **The challenge of implementation**
Lorenzo Giorgi, *Executive Director, Liter of Light Italia NGO and European Coordinator, Liter of Light NGO*

Questions and answers

5:15 pm **Closing remarks**
Fiorenzo Galli, *General Director, Museo Nazionale della Scienza e della Tecnologia "Leonardo da Vinci"*

After the workshop the new WAME installation on access to energy realized by MUST will be presented to the public.
Refreshment will be offered to all participants.

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