



सत्यमेव जयते

## REPORT ON UNDP SESSION RE-INVEST

February 17, 2015, Time 1430 to 1600 hours

Hall No. Main Conventional Hall (Part 1)

Hotel Ashok, Chanakyapuri, New Delhi

Session Title:

### **DECENTRALIZED ENERGY SOLUTIONS [INVESTMENT POTENTIAL IN SOLAR THERMAL, MODERN BIOMASS ENERGY SYSTEMS FOR HEAT AND DECENTRALIZED ELECTRICITY GENERATION]**



Empowered lives.  
Resilient nations.

#### **Purpose of Session**

RE-INVEST is a major international investor meet organized by the Ministry of New and Renewable Energy, Government of India in furtherance of the 'Make in India' initiative launched by the Prime Minister. Through RE-INVEST, MNRE aims attract significant investments into the country thereby enabling a multi-fold increase in the deployment of renewables. The event consisted of parallel technical sessions on variety of themes relating to renewable energy primarily from investment perspective. To take advantage of the platform offered by RE-INVEST, UNDP decided to host a technical session jointly with MNRE on 17 February 2015 from 1430 to 1600 hours entitled 'Decentralized Energy Solutions'. This topic, incidentally, has been the focus of UNDP's activities in India for over two decades.

#### **Session plan**

The session endeavored to bring into focus several decentralized / off grid applications of renewable energy technologies that can:

1. Offer much needed electrical power supply solutions for domestic, agricultural and commercial uses in remote, inaccessible areas and
2. Satisfy direct heat / process heat requirements of domestic, commercial and industrial consumers in almost all parts of the country

Three specific thematic topics were identified for discussion in the session. These are as follows:

1. **Solar Thermal Systems:** For low temperature thermal applications such as for water heating and cooking as well as high temperature applications such as steam, hot air, and cooking
2. **Biomass / Biogas based devices:** For meeting thermal energy requirements of applications such as large scale cooking, industrial scale food processing or other entrepreneurial ventures requiring process heat
3. **Decentralized Power Supply:** For supplying power derived from renewable energy technologies such as solar PV, biomass gasifiers, biogas plants, small wind generators, mini-micro hydro, etc. to remote areas for domestic as well as commercial purposes

The session provided a platform for showcasing and discussing the available potential for various renewable energy technologies for various decentralized end uses mentioned above and for getting an idea of the corresponding magnitude of investment required for realizing this potential. This information would be of help to potential investors desirous of examining any of the above sectors for possible investments.

The session was jointly moderated by Mr. Rohit Kansal, Divisional Commissioner, Ladakh and Kargil, Jammu & Kashmir and Dr. Jaco Cilliers, Country Director, UNDP. Mr. Kansal provided the opening remarks for the session and set the perspective while Dr. Cilliers provided the background from UNDP's angle. The names of speakers invited for the technical presentations, the titles of their respective talks and brief description of their talks are as follows:

1. **Dr. Gerhard Striy-Hipp**, Head of Energy Policy, Fraunhofer ISE, Germany; "Experiences in solar water heater markets in Europe and scope for collaboration with India for accelerating market": The speaker shared his experiences in expanding the solar water heater market in Europe, especially the challenges and barriers.
2. **Dr Ronal Larson**, Aprovecho Centre, USA; "Best practices, business models for marketing biomass cook-stoves and scope for India": The presenter narrated his experiences in promoting bio-char producing cook-stoves in India and other countries and shared his successful business model.
3. **Mr. Alakesh Chetia**, President, SunEdison Social Innovation, USA; "Market for solar energy solutions for off grid electricity: scope, present experiences and constraints in various countries": The talk showcased experiences from Nepal and India on developing decentralized solar PV infrastructure, particularly the constraints and how they can be managed.
4. **Dr A V Mohan Rao**, Chairman, Spectrum Renewable Energy Pvt Ltd. India; "Investment opportunities in production of Bio-CNG in India": The presentation showcased interesting experience in setting up and operating a bio-fertilizer plant along with bio-CG production in conjunction with the sugar industry.
5. **Mr. Paul Needham**, President and Co-founder, Simpa Networks; "Investment potential and barriers for off grid electricity systems in India": The speaker presented his experiences with promoting smart mini grids based on renewable energy technologies in the country.
6. **Dr. Sameer Maithel**, Director, Greentech Knowledge Solutions Pvt. Ltd., India; "Investment potential for solar thermal and solar decentralized electricity in India": This was a comprehensive presentation on investment opportunities in decentralized solar thermal and PV sectors for India based on sound analysis and containing useful statistical information.
7. **Mr. Gagan Pal**, Vice President, Tata Power Solar, India; "Business Models for Decentralized Energies": The speaker showcased Tata Power's experiences in promoting decentralized energy systems, social issues and various barriers encountered therein. He provided suggestions on how policies can be modified and improved.
8. **Mr. Anand Kumar**, Vice President - MW & kW, Waaree Energies Ltd.; "MW and kW- Advantages of power generation using solar roof top": The speaker shared interesting experiences on his efforts on making rooftop solar a success, particularly savings due to savings on land acquisition.

The presentations were followed by a lively and interactive question and answer session of the audience with the speakers. Interesting ideas also came up during the question and answer session: particularly one pertaining to providing a decentralized renewable energy package as a wedding gift in rural marriages. UNDP also came out with a booklet on this occasion encapsulating not only all the information presented at the session but also a set of commissioned studies that focused on the investment potential for various decentralized applications listed above. This booklet was prepared specifically for this occasion and was intended to act as a take-away reference document for participants. The contents of this booklet are spread over two separate sections. Section A, containing a set of commissioned discussion papers

prepared by subject matter specialists on the current status and corresponding investment potential in context of the three important themes mentioned above. Section B contained compilations of articles and presentations pertaining to the talks delivered by various speakers in the session.

On the occasion, a report on “**Off-grid Energy Business Models**” was also launched by Jay C Shiv, Program Manager and Ms. Rashi Gupta, India Partnership Member, Climate Works Group. The session concluded with a vote of thanks by S. N. Srinivas, Program Analyst, UNDP.