

PACE UPDATE

A Newsletter on the U.S.-India Partnership to Advance Clean Energy (PACE)

India Signals Renewed Commitment to Renewable Energy

The Government of India (GOI) organized its first Renewable Energy Global Investors Meet and Expo (RE-Invest) on February 15-17, 2015 in New Delhi. The event, inaugurated by the Prime Minister of India Narendra Modi, was the first major platform for investment promotion by the GOI to signal India's concordance to scaling up renewable energy by bringing together manufacturers, project developers, investors and other stakeholders.

As part of this event, the Ministry of New and Renewable Energy (MNRE), collected "green commitments" from public and private sector companies to invest in India's renewable energy sector in the five year period from 2015 - 2019. It received 41 GW of manufacturing, 217 GW of power generation and 11 GW of financing commitments in all.

The first meeting of the Clean Energy Finance Forum (CEFF), a multi-stakeholder group engaged on finding practical policy recommendations to attract private capital financing to renewable energy, was held during RE-Invest on February 16, 2015. MNRE Minister Piyush Goyal chaired the three hour event which focused on issues of debt and equity finance, hedging challenges, multilateral organizations, the Indian banking sector, project development, state regulations and fiscal policy issues. Minister Goyal directed the CEFF to produce an initial set of policy recommendations by May 2015. The CEFF has set up four working groups: Counterparty Risk and Architecture, Developing Domestic Banking and Capital Markets, Concessional Financing and Fostering International Investment, and Government Incentives - Fiscal Trade-offs and Policies. MNRE, World Bank, Khemka Foundation and FICCI have joined the U.S. Embassy to lead and administer the CEFF process. Further details on CEFF can be accessed at www.ceff.strikingly.com.

While Colin Dreizin, Director, Clean Energy and Environment Office, USAID/India took part in a panel discussion on innovative financing models, USAID's PACE-D TA Program presented on "Sustainable Renewable Energy Storage and Renewables Powered Mobility" at RE-Invest.



Prime Minister of India Narendra Modi at RE-Invest Launch



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Clean Energy Finance

- **Financing of Off-grid Projects:** OPIC's Vice President for Investment Funds, Brooks Preston, attended the CEFF and other meetings in New Delhi on February 15-18, 2015. Brooks met with various government officials as well as private energy developers and investors. The meetings with the government emphasized the various policies, regulatory and legal framework issues that have prevented OPIC from expanding its capacity for financing on-grid renewable energy projects. Notwithstanding the various issues related to on-grid renewable energy financing, OPIC continues to emphasize its focus and open capacity to finance off-grid renewable energy projects in India. OPIC is having on-going discussions with Minister of State (Finance) Jayant Sinha and his team on issues related to off-grid financing. OPIC continues to work on disbursement of a USD 20 million direct loan to Azure Power for the deployment of solar rooftop systems in various cities throughout India. Financial closure is expected this month.



Launch of "Training Manual on Energy Efficiency Financing in India"

- **Training Manual on Energy Efficiency Financing:** Financing of energy efficiency projects has not taken off in a big way in India due to barriers such as lack of non-recourse finance to energy efficiency projects, high transaction cost, and most importantly, the risk perception for new technologies. USAID, via the PACE-D TA Program, is working with the Bureau of Energy Efficiency (BEE) to build the capacity of banks and financial institutions. The program has developed a manual on energy efficiency financing which covers all the training modules required for the understanding of energy efficiency projects and their characteristics. The training manual will help in technical and financial evaluation of energy efficiency projects and help bankers take better decisions. The manual was launched at a training program organized by BEE on June 1, 2015 in Mumbai.

Renewable Energy

- **wPOWER Global Partnership Forum:** wPOWER, a USAID-funded program to promote women entrepreneurs focused on clean energy, organized its global forum on April 16-17, 2015 in New Delhi. Nearly 25 members from Africa and 15 Indian *sakhis* (local entrepreneurs) along with representatives from the Indian Government, NGOs, and private sector participated in the forum. The *sakhis* shared their experiences on how they are not only earning by being clean energy entrepreneurs, but also fulfilling their social responsibilities by contributing towards a cleaner society. The journey and success stories of various *sakhis* and business models of wPOWER encouraged the private sector to enter the rural market for their products.



wPOWER teams from India and Africa with External Affairs Minister V.K. SINGH

- **Clean Energy Access Network (CLEAN):** The CLEAN initiative was officially launched at a pre-Sankalp Forum event held on April 8, 2015 in New Delhi. Key participants included: Tarun Kapoor, Joint Secretary, MNRE; and Manpreet Anand, Deputy Assistant Administrator - Asia Bureau, USAID. Two reports (Unlocking Access to Finance for Decentralised Energy Solution and Skill Solutions for Off-Grid CLEAN Energy) were launched at the event. These reports can be accessed from <http://thecleannetwork.org/resource/reports.aspx>



Launch of Green Jobs Sector Skills Council and Surya Mitra

- **Training to Build a Solar Workforce:** There is a critical need for standardized formal training to build a high quality solar workforce in India to meet the aggressive solar target. The Green Jobs Sector Skills Council and Surya Mitra initiative was launched on May 28, 2015 by Secretary, MNRE and Secretary, Ministry of Skill Development & Entrepreneurship. The Surya Mitra initiative will train 50,000 persons over the next three years leveraging the Solar Energy Training Network (SETNET) initiative set up by the

National Institute of Solar Energy (NISE) with technical assistance from USAID PACE-D TA Program. The Surya Mitra training activities will be delivered through SETNET and all Surya Mitra's will be certified by Green Jobs Sector Skills Council.

- **Exchange Program on Solar Research:** The Solar Energy Research Institute for India and the United States (SERIUS) fosters the development of transformational solar technologies between India and the U.S. As part of this initiative, SERIUS runs an exchange program which offers international face-to-face interactions over ten weeks. The third cohort of graduate student interns working in the areas of sustainable photovoltaics, multi-scale concentrating solar power, and solar energy integration (analysis) was selected in this quarter. This year, three interns are traveling from the U.S. to India, and five are traveling from India to the U.S.



*2014 SERIUS interns from MIT visit
Thermax in Pune, India*



- **Microfinance Technology Showcase and Partner Orientation:** One of the key objectives of the USAID PACE-D TA Program is to enhance access to clean energy sources for rural and urban communities through new financing mechanisms such as microfinance which target the bottom of the pyramid consumers. The program organized a three-day event on April 27-30, 2015 in Kolkata which included an exposure visit to South 24 Parganas. The workshop provided first-hand experience of energy-lending and peer-to-peer learning between microfinance institutions (MFIs). The MFI partners got an opportunity to see “live” energy-lending operations, and network with MFI field staff to understand business models and operation processes.

- **Exploring Solar Rooftop on Oil Refineries:** Indian Oil, India's flagship national oil company, has a huge potential to deploy renewable energy across its supply chain including refineries, townships, warehouses, and retail outlets. USAID, via its PACE-D TA Program, is assisting Indian Oil in its foray into decentralized solar deployment with specific focus on the design and deployment of rooftop installations. The program team has completed site assessments at three refineries (Panipat, Baroda and Barauni) to explore installation of 5 MW solar rooftop plant. It has also prepared the detailed feasibility report for the three refineries.

Building Energy Efficiency

- **Demand-side Management (DSM) Technologies in Smart Grid Project:** EERE International funded a project to introduce and demonstrate demand response technologies in a smart grid pilot in the Northern region of Delhi. The pilot is also funded by USTDA. As part of this initiative, the Lawrence Berkeley National Laboratory (LBNL) partnered with Honeywell and Tata Power DDL to demonstrate DSM technologies and test technical feasibility of consumer adoption in a pilot of 160 buildings with over 13 MW of enrolled load. The results of the project indicate that demand response technologies can reduce on average 10 percent of peak demand load in India (Delhi region).

- **Technical Update of Energy Conservation Building Code (ECBC):** The ECBC code was established in 2007 and requires updates so that it reflects trends in construction practices, the enhanced performance of energy efficient building technologies, and materials available in Indian markets. In urban areas, buildings are and will be increasingly designed to harness as much renewable energy as possible. The USAID PACE-D TA Program is working closely with BEE to compile an updated version of ECBC that will be based on life cycle analysis of the saving potential of all possible energy conservation measures. Till date, the program has defined contours of 16 building prototypes in five climatic zones, completed building envelope stringency analysis report based on the results of the above analysis, and conducted stringency analysis for lighting systems. The program also assisted BEE in forming the steering and technical committees and organizing Working Group meetings for reviews.



- **ECBC Implementation at the State Level:** USAID, via its PACE-D TA Program, is supporting the Department of Urban Development & Housing, Government of Rajasthan, Rajasthan Renewable Energy Corporation Limited (RRECL) and Jaipur Development Authority to develop and implement a state specific strategic road map for ECBC roll-out on a pilot basis for Jaipur. The ECBC Implementation Task Force comprises members from Urban Development Department, Rajasthan Renewable Energy Corporation Limited, Jaipur Vidyut Vitran Nigam Limited, Rajasthan State Road Development & Construction Corporation Limited, Jodhpur Vidyut Vitran Nigam Limited, Ajmer Vidyut Vitran Nigam Limited, and Rajasthan State Real Estate Development Council. The mandate of this task force is to facilitate the adoption of compliance and enforcement mechanism in Rajasthan. Two meetings of the task-force were also organized. A draft note on the process for ECBC compliance procedures for Jaipur, Rajasthan has been prepared. The ECBC implementation framework adopted by Jaipur could be further replicated by other cities in the state and, with appropriate modifications, other cities in India.

Policy and Regulations

- **Facilitating Knowledge Exchange Between States:** USAID’s PACE-D TA Program organized a workshop on February 18-19, 2015 in New Delhi to facilitate knowledge exchange between state stakeholders on clean energy policies and regulations. The workshop aimed to support linkages between different states on clean energy, create awareness about best practices, and promote networking. Representatives of state nodal agencies and electricity regulatory commissions from Haryana, Karnataka, Madhya Pradesh, Tamil Nadu, Rajasthan, etc. participated in the workshop.

- **National Workshop on Clean Energy Policies and Regulations:** India requires an enabling policy and regulatory framework and development of innovative financing mechanism and business models to meet its aggressive clean energy targets. The USAID PACE-D TA Program organized a workshop on April 8-9, 2015 in New Delhi to bring together national and international agencies under one roof to deliberate on the role of regulators in promoting clean energy. More than 100 speakers and participants from central and state policy and regulatory bodies took part in the workshop to deliberate on effective policy and regulatory frameworks needed to fast-track clean energy into mainstream investment decisions. The speakers included representatives from the International Energy Agency, American Council on Renewable Energy, U.S. and European regulators, and the U.S. National Renewable Energy Laboratory.



Upcoming Events

- **Renewable Energy India (REI) 2015:** Organized by UBM India, REI focuses on showcasing innovations in renewable energy via an exhibition and conference platform. U.S. Commercial Services is in the process of certifying the event under its Trade Certification Program.

- September 23-25, 2015, Greater Noida.
Organizer: UBM India.

About PACE: Launched in 2009, the U.S.-India Partnership to Advance Clean Energy (PACE) seeks to accelerate inclusive, low-carbon growth by supporting research and deployment of clean energy technologies and policies. PACE combines the efforts of several government, non-governmental, and private sector organizations on both the U.S. and Indian sides and contains three key components: Research (PACE-R), Deployment (PACE-D), and Off-Grid Energy Access (PEACE). In September 2014, Prime Minister Modi and President Obama agreed to strengthen and expand PACE through a series of priority initiatives that build on PACE’s ongoing work.