Integrating Generation and Transmission Planning to Enable Renewable Energy Deployment

5 June 2017, Monday, 9am – 12:30pm
6 ADB Avenue, Mandaluyong City 1550, Metro Manila, Philippines

Overview

In many countries, integrating significant renewable energy to the power system requires transmission expansion and/or upgrades to access the best wind and solar resources and accommodate generation from large projects. However, traditional generation and transmission planning processes often fail to encourage the development of the most cost-effective RE resources. The renewable energy zones (REZ) approach provides an innovative regulatory framework for planning new transmission to encourage utility-scale renewable energy development in areas that have the highest likelihood of being cost-effective. The REZ approach helps to speed the deployment and utilization of renewable energy while minimizing impacts of variable renewable energy on the stability of the power system.

This deep-dive workshop will introduce the REZ approach to integrated generation and transmission planning, including:

- The importance of this type of approach in the Asian context
- Crucial components of the REZ process
- Case study to highlight an example and key lessons for implementing REZ in other parts of the world
- Hands-on training on the approach to defining candidate renewable energy zones using geospatial analysis

The hands-on training component of this workshop will utilize the Renewable Energy (RE) Data Explorer, an online tool that provides a dynamic mapping and analysis capabilities to facilitate renewable energy decision-making, investment, and deployment. Participants are kindly requested to bring their laptop computers to participate in the hands-on exercise component of the workshop.
## Schedule

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<th>Time</th>
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| 9:00-9:10am| **Introduction and overview**  
USAID – Jen Leisch                                   |
| 9:10-9:40am| **Country/regional perspective: Green Energy Corridors and the need for integrated transmission and distribution planning**  
India                                               |
| 9:40-10:30am| **The RE zones approach to power sector planning**  
NREL – Jaquelin Cochran                              |
| 10:30-11:00am| **Morning break**                                                |
| 11:00-11:20am| **Introduction to the Renewable Energy Data Explorer**  
NREL - Ilya Chernyakhovskiy                         |
| 11:20am-12:15pm| **Hands-on Exercise: Renewable Energy Data Explorer – informing RE zones and planning**  
- NREL walks through tool interface, navigation, data layers and screening criteria to identify candidate RE zones and estimate their technical potential using online RED-E tutorial  
- Participants follow along with the tutorial interactively or dive into more technical aspects of the tool based on their experience level (computer required)  
Facilitated by NREL (Ilya and Jaquelin) and Clean Power Asia |
| 12:15-12:30am| **Observations, questions, and wrap-up**                             |

## Additional Information for Participants

Participants are kindly requested to bring their laptop computers to participate in the hands-on exercise component of the workshop. Any operating system with an internet connection will be supported.

The RE Data Explorer is currently available for fifteen countries including Afghanistan, Bangladesh, Cambodia, India, Indonesia, Kazakhstan, Myanmar, Lao PDR, Nepal, Pakistan, the Philippines, Thailand, and Vietnam. Due to time constraints, the hands-on exercise presented during this workshop will focus on one study country. However, participants from all countries are encouraged to attend because the general approach and analysis techniques are applicable to any power system.

## About the Organization

The U.S. Agency for International Development’s (USAID’s) Clean Power Asia program aims to scale up investment in grid-connected renewable energy (RE) through integrating high renewable energy scenarios into planning; developing and implementing renewable energy zones; improving the enabling environment through policies and other incentives to promote renewable energy investment; improving the technical framework for integrating variable renewable energy into the grid; and mobilizing investment.
Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) is a flagship program of the U.S. Global Climate Change Initiative. Through the EC-LEDS program, the U.S. supports more than 20 partner countries in the design and implementation of low emission development strategies (LEDS). The EC-LEDS program is led by USAID and the U.S. Department of State and supported by several U.S. Government Agencies. The U.S. Department of Energy’s National Renewable Energy Laboratory (NREL) provides clean energy expertise to support the EC-LEDS program.

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