Concept Note and Draft Agenda

Training on Using the Long-range Energy Alternatives Planning System (LEAP) Model for Greenhouse Gas Mitigation Assessment

July 15-19, 2013
New Delhi, India

Background

The Long-range Energy Alternatives Planning system (LEAP) model is a widely-used software tool for energy policy analysis and climate change mitigation assessment. It has been adopted by thousands of organizations in more than 190 countries. Users include government agencies, academics, non-governmental organizations, consulting companies, and energy utilities. It has been used at many different scales ranging from cities and states to national, regional, and global applications.

The LEAP system model has been used in 10 of the 11 countries within countries covered by the USAID/RDMA Low Emissions Asian Development (LEAD) program to support 27 recent studies related to low emission development strategies (LEDS). Further, at the September 2012 Asia LEDS Forum, participants indicated a need for training and technical assistance on LEDS analytical tools such as economic modeling and marginal abatement cost (MAC) curves.

The LEAD program will host a regional training on the LEAP system model to respond to these interests. Dr. Charles Heaps of the Stockholm Environment Institute (SEI), developer of the LEAP system model, will deliver a one-week training for up to 40 practitioners from ten LEAD countries (Bangladesh, Cambodia, India, Indonesia, Laos, Nepal, Malaysia, Philippines, Thailand, and Vietnam).

Participant Profile

The training will be open to professionals working in the above ten LEAD countries, with preference given to those who are actively engaged in greenhouse gas (GHG) mitigation activities and those who are likely to use LEAP in their work, particularly those from Government agencies and those with prior experience of energy and GHG emissions modeling. Participants should have training as scientists, engineers, or economists, although some exceptions are possible.

Training Format

The first day will consist of presentations to offer background on LEDS, mitigation assessment methods and country experiences, and overview LEAP. Days two through four will comprise in-depth exercise to be completed as a full group, in small groups, and/or individually to provide hand-on experience in using and applying LEAP to support LEDS and economic modeling. The final day will address advanced usage of LEAP and potential future support activates.

Expected Outcomes

Participants will gain understanding and hands-on experience on the following:

- How to use SEI's LEAP system model to create national scale energy scenarios that can be used to help design LEDS.
- How to construct MAC curves to help screen potential GHG mitigation options.

Draft Agenda

Day 1 – July 15, 2013

Morning

Opening
Welcoming remarks (TBD), overview of the agenda and objectives, and group introductions

Low Emission Development Strategies *(presentation by USAID or LEAD)*
Brief overview of LEDS and green growth

Experiences with Mitigation Assessment *(presentations by country teams)*
Participants, in country groups, will present their experiences with mitigation assessment, including what methodologies and models (if any) have been used, challenges faced, and lessons learned.

Afternoon

Models and Methods for Mitigation Assessment *(presentation by trainer)*
Overview of the types of models available for mitigation assessment, and their strengths and weaknesses. The focus will be on energy models, although a brief outline of models in other sectors could also be given.

An Introduction to LEAP *(presentation by trainer)*
Overview and demonstration of LEAP

Day 2 – July 16, 2013

Morning/ Afternoon

Hands-On Exercises, Part 1: Screening Mitigation Options
This is a simple exercise using a spreadsheet to screen mitigation options by evaluating the costs ($/Tonne CO_2) and mitigation potential (Tonnes CO_2) of various options. Plot options on a MAC curve.

Hands-On Exercises, Part 2: Screening Using Multi-Criteria Attribute Assessment
Continue with the options from Part 1. Participants (in groups?) will rank projects using the costs and abatement potential calculated earlier, and will consider additional indicators related to energy security and national development priorities.

Hands-On Exercises, Part 3: A Simple GHG Mitigation Scenario
Continue with the options from Part 1. Participants will construct a simple GHG mitigation scenario in LEAP using a generic data set that has been pre-populated with a baseline scenario.

Day 3 – July 17, 2013

Morning

Hands-On Exercises, Part 4: An Introduction to LEAP
Introduction to Exercise 1 of the LEAP Training Exercises that teach the basic skills required for using LEAP for energy demand analysis. Participants will learn how to build a LEAP data set from scratch for a single sector (e.g., households).

Afternoon

Hands-On Exercises, Part 5: Transformation and Emissions Analysis
In-depth exercises that teach the skills for transformation (energy supply) and emissions analysis.

Day 4 – July 18, 2013

Morning

Hands-On Exercises, Part 6: Using Least Cost Optimization
Participants will learn how to use the linear programming features of LEAP, and explore least-cost electric generation systems under various assumptions (e.g. with and without inclusion of externality values and CO_2 emissions constraints).

Afternoon **Hands-On Exercises, Part 7: Using LEAP for Cost-Benefit Analysis of Energy Policies**
Participants will learn how to conduct a comprehensive analysis that compares the net present value of alternative scenarios.

Day 5 – July 19, 2013

Morning **Review of Advanced Topics and Discussion of National Data Development**
(presentation by trainer)
Discuss advanced techniques such as importing and exporting data, and use of national level "starter" data sets. Demonstrate a range of existing LEAP data sets including global models and models designed to assess Short Lived Climate Pollutants (SLCPs). Discuss next steps that participants can take after the workshop to develop their own analyses.

Afternoon **Wrap-up and Closing**
Provide a summary on sessions and discussions from prior days. Engage participants in offering closing thoughts on how they will apply the material. Request participant feedback on training, and ideas for follow up activities. Include time for participants to complete an evaluation form. Present certificates of attendance/completion.

Group Dinner