

# Greenhouse Gas Modelling Seminar

10th – 14th November, 2014

Venue : Training center IAM-Bari

Via Ceglie, 9 - 70010 Valenzano (BA) - IT  
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[http://www.iamb.it/mod=static\\_content,183,183,iamb-bari.htm](http://www.iamb.it/mod=static_content,183,183,iamb-bari.htm)

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Participants will stay at the hotel below:

## **Grand Hotel delle Nazioni**

*Lungomare Nazario Sauro, 7  
70121 Bari (BA) Italy  
Tel +39 080 5920111*

<http://www.grandealbergodellenazioni.com/fra/hotel-bari-centre.html>

Transportation will be organised every day for all participant

<sup>1</sup> Created in 1962, **CIHEAM** (Centre International de Hautes Etudes Agronomiques Méditerranéennes) is an Intergovernmental Organisation with 13 Mediterranean member states: Albania, Algeria, Egypt, France, Greece, Italy, Libanon, Malta, Marocco, Portugal, Spain, Tunisia and Turkey.

### Background to the Seminar:

Over 2014, many partner countries expressed an interest in learning more about GHG modelling, tools and methods. The key elements to be factored in for this work are summarized in the box below.

- **Historical data** are required: GHG emissions and energy consumption per sector and per activity; statistics on activity levels;
- Analysis of the national and regional/international situations, including **indicators other than GHG or energy**, is necessary;
- **Sensitivity** analyses are recommended ;
- **Impacts other than GHG**: growth, employment, air pollution, energy security, public revenues...etc.
- The choice of modelling tool used to prepare baseline scenarios tends to be driven by **a trade-off between performance** (in the form of sophistication & anticipated accuracy) **and resources available** (including human capacities and data availability)
- To model **energy sector emissions**, most participating countries rely on **bottom-up models**, which provide a fairly detailed representation of the energy system
- Most countries use **existing models** to develop their baseline scenarios
- Baseline scenarios support broader national and often international processes.

The first step towards progress on this topic is a learning phase on how to assess current and likely future GHG emissions including the emissions reductions and costs resulting from proposed mitigation policies and measures. Creating assessments that are sufficiently credible to be accepted by both national decision makers and the international community is no easy task.

Countries need to build/enhance their capacities the use of the types of standard modeling tools required to make these assessments. The most commonly used tool in the energy sector is the Long-range Energy Alternatives Planning (LEAP) system, developed by SEI, which has been widely adopted by many countries as a standard framework GHG mitigation assessments under the UNFCCC's National Communications process. LEAP is particularly notable for its ease-of-use, its low initial data requirements and its flexibility, making it well suited to countries where data is relatively scarce.

Based on the conclusions and recommendations, ClimaSouth and ClimaEast in partnership with SEI are organizing a five-day event for national representatives from climate change units and energy ministry/ agency staff, to familiarise with and better understand modeling tools. In this regional seminar, participants will become accustomed with the use of the LEAP tool for GHG mitigation assessment and scenario analysis.

### Objectives of the seminar:

- Introduce to use the GHG modelling Long-range Energy Alternatives Planning System (LEAP)<sup>2</sup> software for GHG mitigation assessment.
- Facilitate exchange & learning among ClimaSouth and ClimaEast countries
- Identify and organise follow-up action to assist countries with GHG modelling

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<sup>2</sup> For further details see: <http://www.energycommunity.org/default.asp?action=47>

The seminar will include:

- a one day introduction to the topic of GHG mitigation assessment and its overall global policy context and
- an overview of LEAP, a thorough grounding in the skills needed to apply LEAP including:
  - How to model national energy systems,
  - How to assess the GHG emissions associated with these systems,
  - How to create and compare alternative baseline and mitigation scenarios, and
  - How to assess the costs and benefits of alternative policies and measures.

In the final two days of the workshop, participants will be provided with "**starter**" **data sets** for LEAP for their own countries and will be asked to work on these, reviewing the data, methods & assumptions, and developing an initial set of scenarios.

Following the seminar, both the ClimaEast and ClimaSouth projects will offer helpdesk support and mentoring services to partner countries who continue working on GHG modeling using the LEAP or other appropriate tools at country level.

**Date:** November, 10th – 14th 2014

**Location:** Bari, Italy IAM<sup>3</sup> Training Center

**Organisers:** ClimaSouth (Agriconsulting Consortium) and ClimaEast (HTSPE Consortium)

**Country beneficiaries :**

- Algeria, Egypt, Israel, Jordan, Lebanon, Libya, Morocco, Palestine and Tunisia.
- Armenia, Belarus, Moldova, Ukraine, Georgia and Azerbaïdjan.

**Event:** A 5-day seminar (see seminar attached)

- 1 day policy briefing / dialogue with European speakers and partners (EU Presidency representative, DG CLIMA and the presentation of 2 examples of national GHG modeling, Belgium and Tunisia).
- 4 day hands on training on GHG modeling (LEAP software) for 2 representatives from those 15 countries, with the technical support of the Stockholm Environment Institute (SEI).

**Language:** Training delivered in EN, with EN/FR/RU interpretation.

**Participants' profiles:** The 2 participants designated for each country must be civil servants or employees of governmental institutions with a **direct technical involvement** in GHG and/or energy issues. One person should come **from the energy sector** and one **from the environment sector**. Basic working knowledge of EN required as the software interface is in English<sup>4</sup>.

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<sup>3</sup> For further info: <http://www.iamb.it/>

<sup>4</sup> LEAP Training exercises are available in English and in French ; the software has some partial translation into French. The User Manuals are English only.

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## AGENDA

### Day 1: 10 November, 2014

10:00 - 10:30	<b>Registration, coffee/tea</b>
10:30 – 10:40	<b>Welcome address</b> by Cosimo Lacirignola, Secrétaire Général du CIHEAM & Directeur du CIHEAM–IAM Bari
10:40 – 11:00	<b>Introduction on recent Global GHG policies developments</b> by A. Roncerel, Team Leader ClimaSouth and Z. Lengyel, Team Leader ClimaEast
11:00 – 11:30	<b>Coffee/Tea</b>
11:30 – 12:30	<b>Scenarios for a Low Carbon Belgium by 2050</b> by Pascal VERMEULEN, CLIMACT (Brussels).
12:30 – 13:00	<b>Partner countries views on the 2015 Agreement, including training needs to formulate relevant strategies</b> by Issa Alyiev, UNFCCC Focal Point, and Azerbaijan ClimaEast project focal point.
13:00 – 14:00	<b>Lunch</b>
14:00 – 14:30	<b>GHG modelling for Tunisia</b> by Nejib OSMAN Director of Studies and Planning, Agence Nationale pour la Maîtrise de l'Energie, Tunisia presented by Pascal Vermeulen.
14:30-15:30	<b>General Discussion and Introduction to the hands-on training seminar</b>
15:30 – 16:00	<b>Coffee/Tea</b>
16:00 – 18:00	Study tour on the IAM Bari campus
19:30 – 21:30	<b>Cocktail</b>

# Greenhouse Gas Modelling Seminar

**By Charlie Heaps**

Senior Scientist, Director Stockholm Environment Institute US Center

## Day 2: November 11

1. Introductory lectures on the topic of GHG mitigation for National Communications and mitigation assessment, including comparison between LEAP and other modeling tools & approaches
2. Introduction to LEAP (lecture and demo)
3. Spreadsheet-based exercise on the topic of developing GHG cost curves.
4. Using Multi-criteria analysis to assess and screen different mitigation options (if time allows)

## Day 3: November 12

5. Introductory LEAP exercises: learning basic techniques & developing a simple energy demand analysis
6. Using LEAP for energy supply analysis (electric generation, Transmission and Distribution)

## Day 4: November 13

7. Using LEAP for emissions analysis.
8. Using LEAP for least-cost optimization modeling and cost-benefit analysis (if time allows).

## Day 5: November 14

9. Working with real national starter data sets (where available): reviewing data, examining how data sets will need to be improved to facilitate a thorough and comprehensive analysis. Suggesting improved local sources of data, suggesting revisions to data structures and plan of action (at least one day).