# Energy Modelling Platform for Latin America and the Caribbean (EMP-LAC) | 2025

## Concept Note for Applicants

**Context**

The Energy Modelling Platform (EMP) is an initiative created by the OpTIMUS Community, which supports an Open-Source global community of practice made up of governments, finance institutions, universities, consultants and professionals, working together to achieve sustainable development and climate compatible growth. The EMP is divided into the following six chapters: African (#EMPA), Latin American and Caribbean (#EMPLAC), North American (#EMPNA), Asia Pacific (#EMPAPAC), Energy and Climate Modelling Platform for Europe (#ECEMP) and the EMP Global (EMP-G) for the rest of the world. The EMP has so far delivered 12 successful events worldwide (EMP-A, EMP-G, EMP-LAC).

The main objective of the EMP-LAC 2024 is to contribute to creating optimised investment business cases for the energy transition in Latin America and the Caribbean. Attracting this investment will meet the continent's growing demand for low-carbon, inclusive, and climate-resilient development pathways whilst making use of its large resource base. The EMPs ensure that policy and planning professionals in each country have the skills to analyse data to create realistic scenarios for clean energy projects. This data-driven analysis creates a much more credible case for potential investors.

This event is an excellent opportunity for you to acquire free training relevant to your professional role, to get access to discussion forums, and coaching skills in models and tools for energy planning needs.

To date, three EMP-LAC events have taken place. The first one, EMP-LAC 2022, was held online and was a small training event. The second one, EMP-LAC 2023, was much larger and took place between 16 January - 3 February 2023 in San Jose, Costa Rica. This event trained 45 individuals in person. The third event, held from from 15 January - 2 February 2024, in the city of Niterói, Rio de Janeiro, Brazil, saw 51 individuals being trained in person.

The fourth EMP-LAC (EMP-LAC 2025) is planned to take place in Buenos Aires, Argentina, at Universidad Nacional de La Matanza (UNLaM).
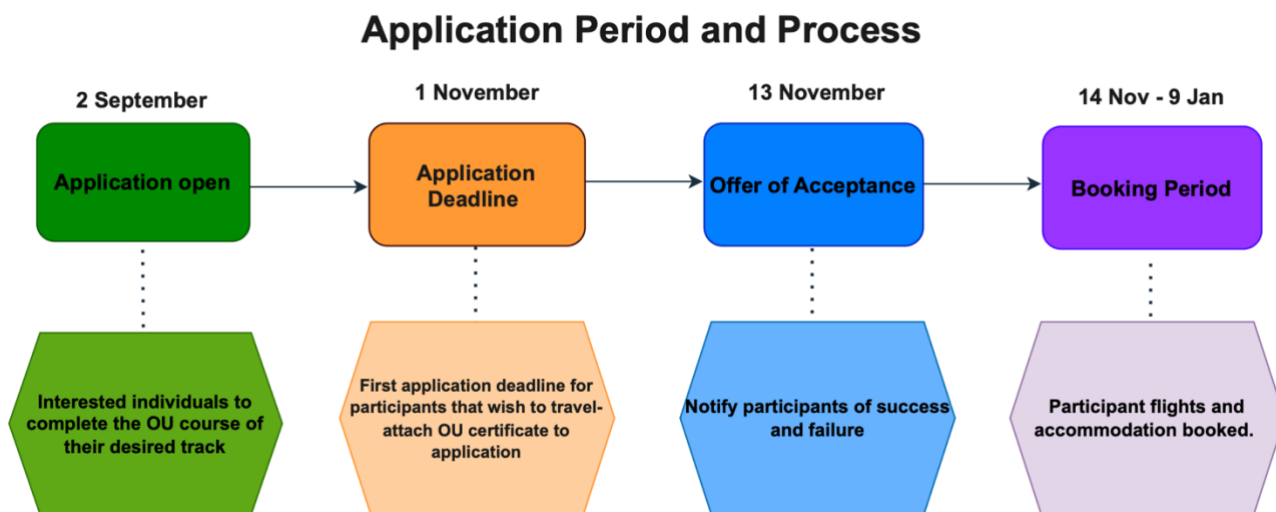
**Objectives of EMP-LAC**

- Gather the energy planning and modelling community in Latin America and the Caribbean to share experiences, models, and data in climate, land, energy, and water systems.

- Develop the knowledge and skills of people and institutions in Latin America and the Caribbean for integrated energy modelling and investment planning.

- Create an ongoing legacy of knowledge in each country for energy planning in Latin America and the Caribbean.

- Promote efficient and widespread use of open-source modelling tools to support the implementation of the UN's Sustainable Development Goals and the Paris Agreement.

**Structure of the EMP-LAC 2025**

EMP-LAC (2025) will be an in-person event from 27 January – 14 February in Buenos Aires (with the first week of training being online).
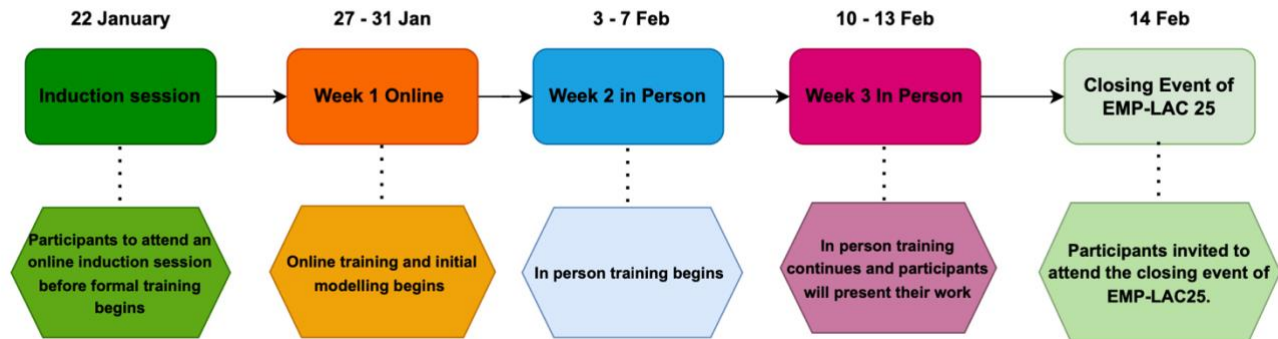
The application period and process are shown on this diagram:

## Application Period and Process

| 2 September | 1 November | 13 November | 14 Nov - 9 Jan |
|---|---|---|---|
| **Application open** | **Application Deadline** | **Offer of Acceptance** | **Booking Period** |
| Interested individuals to complete the OU course of their desired track | First application deadline for participants that wish to travel- attach OU certificate to application | Notify participants of success and failure | Participant flights and accommodation booked. |

The application period will be followed by the training period, see below for dates and details. Please note that the majority of training sessions will be **conducted in English.** However, there will be Spanish and Portuguese speakers/trainers on hand to assist.

During the EMP-LAC 2025, you will acquire energy and resource modelling skills using <u>one</u> of the following open-source modelling tools/practices for sustainable development pathways.

## Training Period



| 22 January | 27 - 31 Jan | 3 - 7 Feb | 10 - 13 Feb | 14 Feb |
|---|---|---|---|---|
| **Induction session** | **Week 1 Online** | **Week 2 in Person** | **Week 3 In Person** | **Closing Event of EMP-LAC 25** |
| Participants to attend an online induction session before formal training begins | Online training and initial modelling begins | In person training begins | In person training continues and participants will present their work | Participants invited to attend the closing event of EMP-LAC25. |

You will be taught by leading academics and researchers in the field of model-informed development strategies. There are eight tracks, which will run for three weeks, **except for the Electricity Transition Playbook, which will take place only in Week 3 (10 February – 13 February)**. You can choose one track from this list:

- **Energy and Flexibility Modelling: OSeMOSYS and IRENA FlexTool**

  This course will help you to understand what investments, at what time, and at what scale, are needed in the energy sector to meet the growing demand for energy while meeting security, environmental, and other constraints. Special considerations will be made for modeling the flexibility of the electricity system, to account for high renewables penetration.

- **FinPlan (Financial Planning of Energy Infrastructure) and Investment Pipelines**

  This training course will provide basic knowledge on financial theory and will show how financing is done in the power sector across the world. The primary focus will be on developing countries, and we will demonstrate how to carry out financial analysis of power projects using FINPLAN.

- **MAED and Energy Balance Studio**

  This course will teach you how to use two of the International Atomic Energy Agency (IAEA) modeling tools: the Model for Analysis of Energy Demand (MAED) and the Energy Balance Studio. In the process, you will learn about energy balances and energy systems in general, assisting you in energy system planning.

- **Introduction to CLEWS: Climate, Land-Use, Energy and Water Systems**

  This course will teach you how to analyse policy decisions on issues such as the promotion of clean energy, competition for water and agricultural modernisation, by

teaching how to define model components, linking them together in an integrated system representation, populating the model with data, running a model, and interpreting results using CLEWs.

● **Input-Output-based Life-Cycle Assessment with MARIO**

The main goal of the course is to introduce you to the fundamentals of quantitative impact assessment methods and to the application of such using MARIO, an open-source python-based platform designed to handle and process input-output models. These quantitative models are specifically aimed at assessing the prospective environmental and economic impacts resulting from the application of technological or policy interventions at meso- and macro-scale, comprehensively including supply chain effects in a Life Cycle perspective.

● **OnSSET / The Global Electrification Platform**

This course will help you learn about geospatial energy modeling, how to build your own electrification analysis, how to include the geospatial dimension in your energy modelling to unlock new dimensions and gain an understanding of the earth's different energy resources, and how to incorporate them in your energy modeling.

● **Electricity Transition Playbook**

This course will guide you through the key steps required to successfully deliver an electricity system transition. It will use an engaging "lectures and case studies" approach to set out how to create a long-term vision for the electricity mix. It will build understanding of the key elements of political support, policy and regulatory delivery mechanisms, network infrastructure and operational requirements, all framed by enabling technologies, supply chain and workforce needs and consumer and public buy-in. You will also bring your own case study to the course (eg a country or region), to work on collaboratively with ICTP convenors and other participants. This will bring the course material to life and ensure practical value when returning home.

● **Spatial Data Management and Analytics for Integrated Energy Planning**

From theory to practice, you will be introduced to the importance of spatial data and analytics for providing actionable insights for the expansion of clean energy services to support socio-economic development. You will work on practical hands-on exercises to identify high-priority areas for energy interventions. You will also upload, manage, and configure custom data in EAE's dynamic backend infrastructure. Through the training, you will have the opportunity to customise a fully functioning version of Energy Access Explorer for a given geography (this may be national or subnational) and/or use a case of interest.

**Each course has two parts:**

- **Self-paced study**: You will complete the track of your choice and attach the certificate of completion on your application form. After you are accepted, an Induction Session will take place (22 January), for you and other participants to set the scene for the training course. Week 1 of the School (27–31 January) will be conducted online. Coaching and troubleshooting sessions will be scheduled to support you and all applicants and further their modelling knowledge.

- **In-depth hands-on training** Week 2 and Week 3 (3–13 February) comprises an interactive component with your dedicated trainers. You will receive further coaching and training on using the tool from your chosen track for a national case study. You are expected to develop a report, and an 'elevator pitch' presentation for a senior decision-maker. You will be required to present the PowerPoint on the 13 February. Feedback will be given based on these presentations, as well as invitations to the closing event of EMP-LAC 25 (14 February).

Participants will receive a certificate from CCG and UNLaM on successful completion of the training event, subject to completing the report and presentation.

The last day of the School (14 February) will be dedicated to a closing event for EMP-LAC 25. The substance of the event is yet to be determined with event hosting partners.

**Application**

There is no fee to attend. However, competition for places is high, and places are limited. If you are interested in participating in the EMP-LAC, you must complete the application form using the link below:

https://loughboro.qualtrics.com/jfe/form/SV_5mvnIYJqX7tKpw2

This form has a 'Personal Details' section and an 'Application' section, where you are required to share information such as, but not limited to, your current job responsibilities, motivation for the application, and field of interest. This information will be taken into consideration for the application process.

1. In order to be considered, you **must attach the Open University certificate** of completion for your chosen track to your application.

2. Additionally, you are required to complete the 'Modelling, policy and political economy' course available on the Open University website, and **attach the certificate of completion** on the application form. **Please note, this course is available only in English.**

3. Furthermore, a stamped **Letter of Commitment** stipulating an **express statement from your institution towards attendance of the module of choice** is **also mandatory** for attendance. To apply, you will have to demonstrate:

   - That the output of your study is in demand by the government that you represent; or
   - That the skills, tools, and teaching material that you acquire will be used in university teaching or government planning knowledge management; or
   - That the output will fit into policy-relevant research to be published on a visible platform.

   Supporting documentation will require a letter from a head of unit or higher (government) or head of department or higher (university and others). Exceptions will be made for selected candidates from participating organisations and ongoing technical assistance programmes, and applicants will be notified via those channels. Priority will be given to participants from countries with a demonstrated need and ability to apply the training to

policy development. The selection of participants will include considerations of equity, diversity, and inclusion.

4.  Lastly, you must submit a **Letter of Motivation**, in which **you state why you should be selected for the course, and how your background knowledge and experience makes you ideal for the course.**

The deadline to submit the application is at **12.00 pm (GMT-3) on 1 November**, and all applicants will be notified of their outcome by 12.00 pm (GMT-3) on 13 November.

**Funding for in-person participants**

Funding will be made available for in-person participants to cover the cost of travel, accommodation, and lunch. However, participants not selected for funding can still attend at their own expense. Please specify in your application if you wish to be considered for funding. In certain instances, subject to funding and co-funding, some tracks may be held online.

**Partners**

In alphabetical order:

- Climate Compatible Growth Programme (CCG)
- Energy Sector Management Assistance Program (ESMAP)
- Green Grids Initiative (GGI)
- International Atomic Energy Agency (IAEA)
- International Renewable Energy Agency (IRENA)
- Imperial College London (ICL)
- KTH Royal Institute of Technology (KTH)
- OpTIMUS Community of Practice
- Politecnico di Milano
- Simon Fraser University
- Sustainable Energy for All (SEforALL)
- The Loughborough Centre for Sustainable Transitions: Energy, Environment, and Resilience (STEER)
- Universidad Nacional de La Matanza (UNLaM)
- Universidade Federal de Juiz de Fora
- United Kingdom Foreign, Commonwealth and Development Office (UK FCDO)
- United Nations Department of Economic and Social Affairs (UNDESA)
- United Nations Development Programme (UNDP)
- University of Cambridge
- University of Costa Rica
- University of Oxford
- World Bank Group (WBG)
- World Resource Institute
- 2050 Pathways Platform

**IT requirements**

Note that you will require a computer with stable internet access to participate in the training. It is recommended, for all tracks, that you have at least 8 GB of RAM and a relatively new computer. Specific Tracks have additional computer requirements above and beyond this minimum:

- CLEWs - Windows 10 computer
- Energy Modelling and Power System Flexibility - Windows 10 computer, 8GB RAM, MS Office with Microsoft Access.

**Further information** contact inquiries@optimus.community or the organizers Rudolf Yeganyan (r.yeganyan1@lboro.ac.uk), or Rosie McGrane (r.mcgrane@lboro.ac.uk).