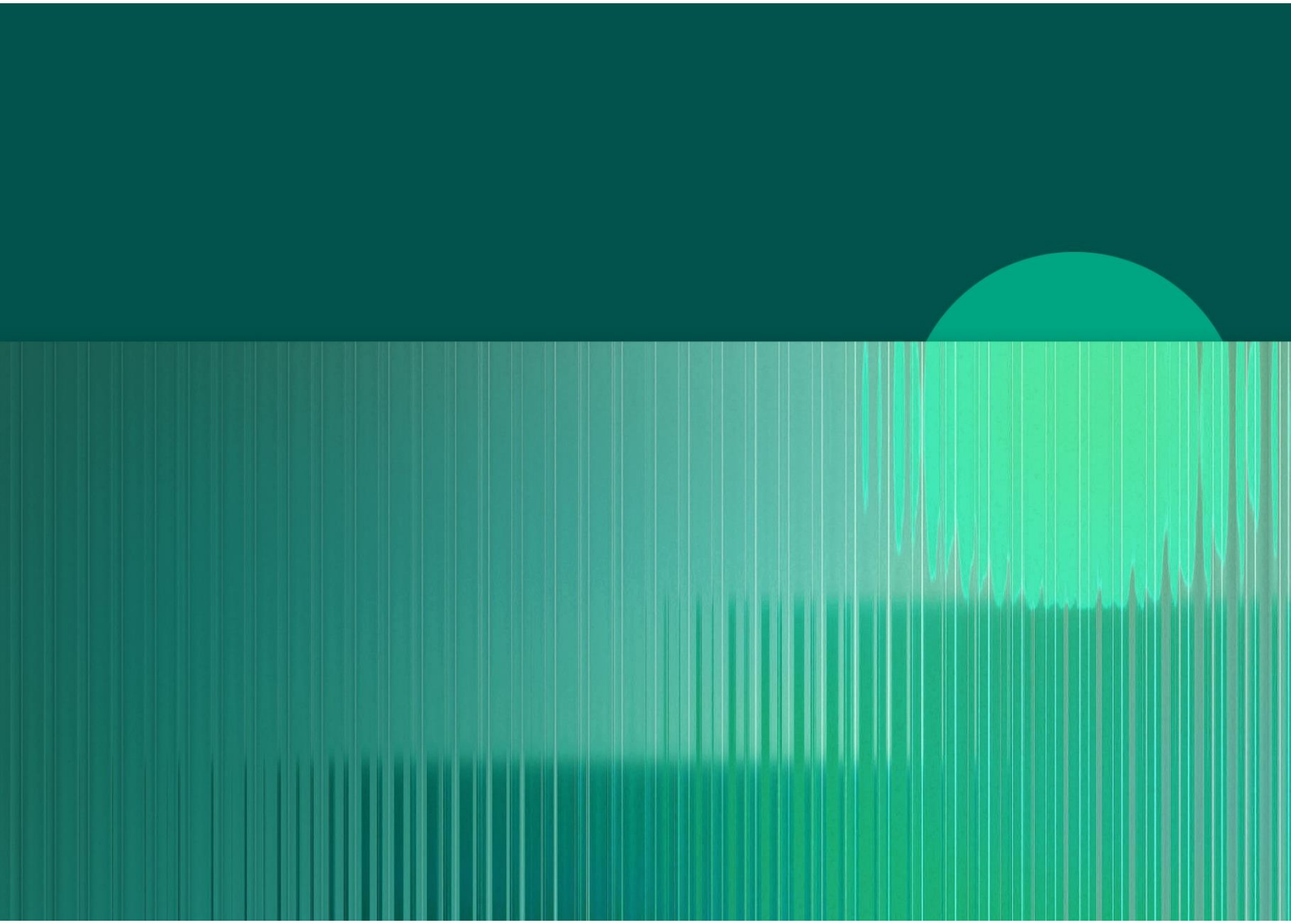

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EULAC for energy transition

Research infrastructure cooperation for energy transition between European and Latin American and the Caribbean countries

Context

The European Union (EU) pursues is the climatic neutrality (European Green Deal proposal), the investment in clean energies and the search of new allies, reliable and committed to the goal of a green and just energy transition. Those movements have acquired a never-seen-before dimension, but **the EU still needs to modernize the energy networks to support energy system integration and to add other decarbonized and low-emission energy carriers**, such as renewable hydrogen and lithium technologies (according to the Paris Agreement).

While this takes place, at the other coast of the Atlantic, Latin-America and the Caribbean (LAC) is one of the regions of the world that has been suffering the most from climate change: lost crops, new public health problems, extreme meteorological phenomena, or the proliferation of sixth-generation fires. The interest of this region in working for climate change is evident, so there is an urgent demand for developing the necessary tools. LAC is a region highly rich in natural resources that are relevant alternatives for traditional polluting industries, as the energetic one. The so-called "lithium triangle", integrated by Argentina, Bolivia and Chile, represents the 56% of the global resources. It is also estimated LAC may produce 12% of green hydrogen demand by 2050. **Energy transition implies both a need and an opportunity for the region**. However, LAC has not the resources or the knowledge to exploit the full potential of those technologies on its own.

Under this scheme, UE and LAC present complementary possibilities and are, somehow, natural partners**. International problems require international solutions** and this challenge is a good materialization. The EU-LAC cooperation on energy transition should start by the cooperation among European and Latin American research infrastructures. On one side, EU needs a quick development of renewable energies research to resolve some of their limitations, such as their intermittency. On the other side, LAC requires to leave the pure extractive role and move up in the value chain of lithium and green hydrogen, as well as of sources of energy like solar-thermal one, so they can overcome the "Commodity Resource Curse".

This project is mainly focused on the generation of innovative technological solutions for clean and social energy transition. Its outputs are heterogenous – scientific publications, an e-learning course, platforms, a software and political recommendations – and address energy transition with a just and environmental perspective in LAC and EU countries, with the goal of generating know-how to enhance the capacities of the main actors on energy transition: researchers, policy makers, enterprises and civil society.

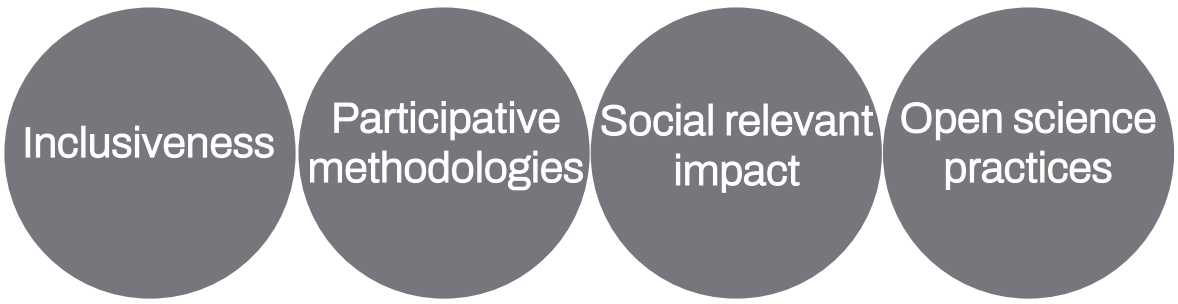
The project

General objective

To address the energy transition, as a common challenge, through the **exchange, generation, and transfer of knowledge among EU and LAC research infrastructures** from a multidisciplinary approach (technological, environmental, social) and to **support the development of public policies and regulatory frameworks** promoting a clean, sustainable and just transition of the energy sector to advance to a resilient society.

Specifically

- the modernization of the technologies developed by the energy research infrastructures to supply solutions for a progressive electrification, integrating decarbonized and low emission energy carriers such as renewable hydrogen and lithium technologies.
- fostering the scientific cooperation between the EU and LAC energy research infrastructures transferring the results to make energy transition a key perspective for the main stakeholders involved on the sector, and ensuring it effectively takes place with an ethical and quality approach.
- standing out the environmental dimension on the energy transition to make it compatible, to assure new energy sources are sustainable and environmentally friendly.
- making research and promotion of social methods and public policies to make the energy transition highly beneficial for societies – considering both territorial and international economic justice – by approaching it from an integral perspective.



Consortium integrated by:

- European Solar Research Infrastructure Consortium EU-Solaris ERIC
- INESCTEC (Portugal)
- Universidad Nacional San Martín – UNSAM (Argentina)
- Fundación Centro de Alta Tecnología – FUNCENAT (Costa Rica)
- Universidad Nacional del Nordeste – UNNE (Argentina)
- Pontificia Universidad Católica de Chile – PUC
- European Research Infrastructure Consortium for Biodiversity LifeWatch ERIC
- Instituto Politécnico de Setubal – IPS (Portugal)
- Consejo Superior de Investigaciones Científicas – CSIC (Spain)
- Tecnológico Nacional de México – TECNM
- Organización de Estados Iberoamericanos para la Educación, la Ciencia y la Cultura – OEI

An heterogeneous consortium in relation to sizes, typologies and location. It is composed by:

1. an intergovernmental organization (OEI), ERICs (EU-SOLARIS and LIFEWATCH), technological-research centers (CSIC and INESCTEC), a foundation (FUNCENAT) and higher education institutions (IPS, PUC, TECNM, UNNE and UNSAM).
2. entities with important technological capacity, as EU-SOLARIS ERIC; with a deep experience in environmental care, as LIFEWATCH ERIC; with a wide social research expertise, as CSIC; and with a historical political incidence, as the OEI.
3. European institutions – as the ERICs, OEI and the rest of the partners involved (Spain, Portugal, Belgium, Bulgaria, Cyprus, France, Germany, Greece, Italy, the Netherlands and Slovenia) – and Latin American – in Argentina, Chile, Costa Rica, Mexico, as well as the rest of member states of the OEI –.

24 months to make real cooperation in:

Technology

Led by EU-SOLARIS ERIC

Work package 1: Mobilities for technology

- **Mobilities**: mobilities from LAC entities to European research infrastructures and from European research infrastructures to LAC R&I entities to promote Scientific Cooperation Networks between research infrastructures focused on energy sector.
- **Technical assistance**: Capacity building of indigenous and rural communities about the use of green energy on social needs.
- **Inventory of research infrastructure.**

Work package 2: Research and innovation actions for technology

- **Joint assessment** on which are the most viable, useful and urgent possible application of solar thermal energy in LAC and EU countries.
- **Virtual thematic event** related to technology in energy transition.
- **Online international workshop** on the green hydrogen production and lithium valorization and exploitation for energy production in LAC and EU countries.

Deliverables:

- Monitoring report for technology mobilities
- Inventory of research infrastructures (RI) for energy transition
- Paper about solar thermal energy assessment
- Monography about RI for green hydrogen and lithium
- Report about Lithium extraction
- Conclusions on the virtual thematic event
- Conclusions on the international workshop

Transversal

Led by OEI

Work package 3: Coordination, Management, Exploitation and Dissemination

- Kick-off and final internal meetings
- International event
- Quality, monitoring and evaluation
- Dissemination
- Smart Specialization Strategies
- Political recommendations and guidelines

Environment

Led by LifeWatch ERIC

Work package 4: Mobilities for sustaintability

- **Mobilities**: mobilities from LAC R&I entities to European RI and from European RI to LAC R&I entities in sustaintability.
- **E-learning course**: Oriented to researchers on how to incorporate open science, specially focused on energy transition, natural capital and climate change.

Work package 5: Research and innovation actions for sustaintability

- **Research platform**: Adaptation of the research platform Virtual Research Environment, focused on climate change and diversity for energy transition to exchange knowhow.
- **Software** to generate traceability chains (blockchain, mobilities traceability, etc.), about the SDG achievement on research mainly focused on clean and just energy transition.
- **Virtual thematic event** about the incorporation of environment in energy transition.

Deliverables:

- Monitoring report for sustainability mobilities
- E-learning course on open science
- Development of the research platform
- Software for the SDG achievement on research

Social impact

Led by CSIC

Work package 6: Mobilities for social impact

- **Mobilities**: mobilities in LAC and in Spain-Portugal will be carried out as the phase I (design) and phase II (fieldwork) of an ethnographic study related to policies on lithium, green hydrogen and renewable energies.

Work package 7: Research and innovation actions for social impact

- **Ethnographic study**: the phase III (systematization and paper writing) and the phase IV (publication and presentation of results) of the ethnographic research.
- **Virtual thematic event** about social impact in energy transition.

Deliverables:

- Monitoring report for social impact mobilities
- Ethnographic research - the social impacts of energy transition

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Funded by the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible for them.