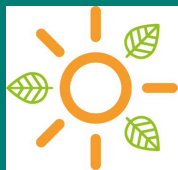




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PEARLS

PLANNING AND ENGAGEMENT ARENAS FOR RENEWABLE ENERGY LANDSCAPES

PEARLS series - 2019/3



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PEARLS aims to strengthen people's commitment to safe, clean and efficient energy as actors in spatial planning and social innovation in renewable energy landscapes (REL), bringing the vision and experience of Mediterranean countries to the rest of Europe.

This project will take a step towards changing the way REL are addressed, providing key support for the pan-European energy challenge.

Cover: Card by Oriol Jonloch. Courtesy of the artist.



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PEARLS - Planning and Engagement Arenas for Renewable Energy Landscapes is a project funded by the European Union's Horizon 2020 Research and Innovation Staff Exchange under the Marie Skłodowska-Curie Actions.

The **purpose of the PEARLS** project is to reinforce the population's commitment to secure, clean, and efficient energy.

With a Social Sciences approach, the project targets its analysis at Renewable Energy Landscapes (REL), with REL regarded as spaces where renewable energies change the population's relationship with energy and their landscape perception.

PEARLS' goal is to contribute to the generation of a step - change in the way that REL are theorised, detected and addressed and so provide crucial support for the Pan-European Energy Challenge. Its main purpose is to radically transform scientific knowledge on how to best implement REL across Europe.

Despite all efforts, resistance to REL lingers on in Europe/the U.S., while the reasons for strong social acceptance in Mediterranean and South American countries are still unknown. Thus, PEARLS will focus on Southern Europe and Israel due to their wealth of renewable energy resources and citizens' deep engagement with REL.

The booklet contents refer to the information included in the Project Plenary Forum report prepared by the Steering Committee for the meeting held in Syracuse (Italy) on the 7th September 2023.



Work Package 1 - PEARLS Interaction Platform

Objectives

- 1. Communicate** the Project, its mission, progress, and results, by including strategic and effective communication activities, such as the Project website, press releases, written in media of different types, oral communications, and interactive social media.
- 2. Disseminate** Project results to the scientific and R&I community through publications, conferences, technological outputs and EC-H2020 channels.
- 3. Share** expertise arising from research results with potential users from an international and multi - sectorial audience by providing targeted information to multiple audiences via two-way Exchange channels.

Methological frameworks

Task 1 - Establishment of project website (PW), data sharing platform and regular website updates to provide key information on the project and contact information for all partners, implementation of a video channel to disseminate declarations and PEARLS project fieldwork and case studies, as well as a public section of the project website for communication to the public through social media (i.e., Facebook, Twitter, Instagram, Pinterest).

Task 2 - Together with WP6, establishment of a strategy framework for the treatment of IP generated in the project; development of social media and Digital Marketing Strategies (MS) to post online preliminary findings on specialised scientific production search engines following IPR and quality assurance rules.

Task 3 - In relation to WP2 and WP3, preparation of brief online follow-up questionnaires (F-Up Q) to interrogate an international multisectoral panel of experts about PEARLS progress with the aim of providing information cuts to the media and to disseminate results to a broad multidisciplinary scientific audience.

Task 4 - PEARLS Project Plenary Forum (PPF) for dissemination and communication of project end results by the whole consortium and the Advisory Board aimed at a broad and selected group of multisectoral, international experts from the Mediterranean area.

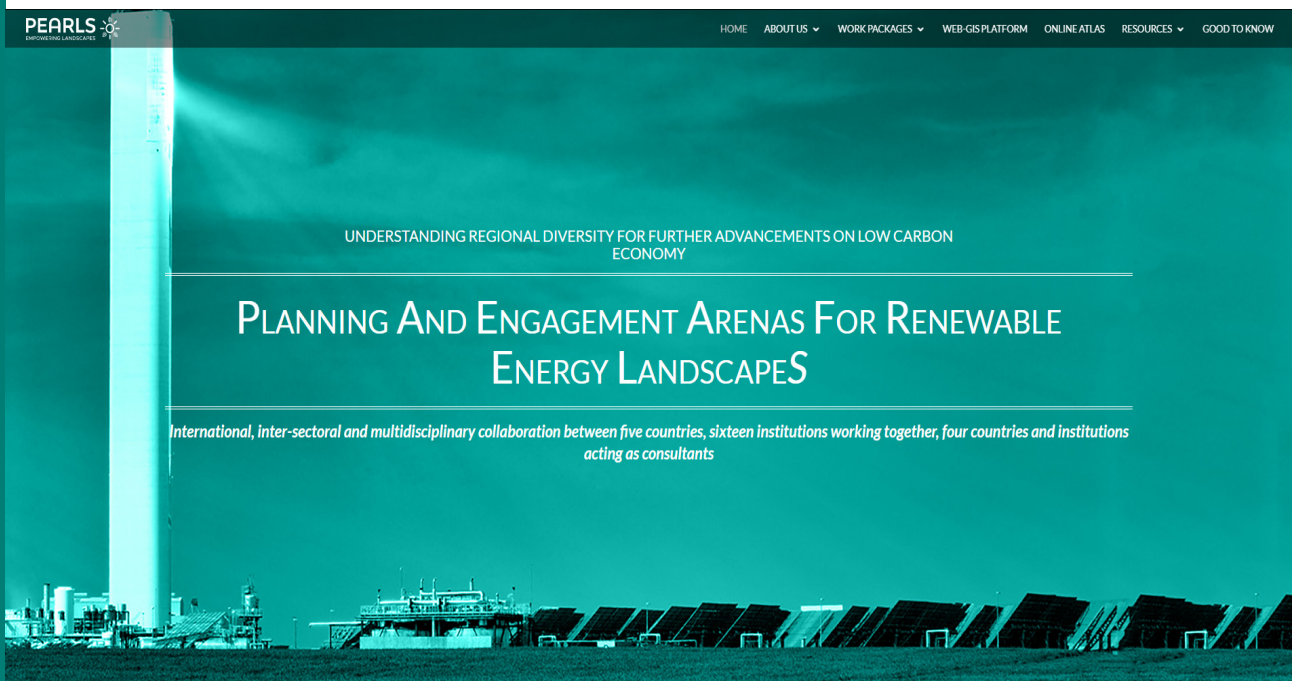
Outputs

- Project Website - <https://pearlsproject.org/> - operational, open to the public and used by the beneficiaries.
- Online Atlas - accessible as an online platform in the PEARLS project website (<https://pearlsproject.org/online-atlas/>).

Report on the Follow - up Questionnaire

33 national experts out of 50 answered the questionnaire (for a percentage of 65%) with the following results:

- Renewable energy sources (wind energy, solar power, hydropower, biomass plant) are mostly supported or fully supported.
- Most of the respondents have or would like to have solar panels, PV and solar hot water heating.
- Almost all the respondents consider energy behaviour at home important for energy reduction.
- In general, there is a wide support to the long - term strategies for the implementation of renewable energy sources.



Work Package 2 - Sustainable Implementation of REL Policies and Practices Analysis

Objectives

1. **Examine and compare** national energy policy, land use planning and landscape practice schemes.
2. **Analyse** environmental impact assessment procedures to enable the inclusion of natural and cultural aspects. Constructing a return mechanism for policy makers.
3. **Research and develop** tools to increase public participation in energy policy and renewable energy landscape implementation practices.

Methodological frameworks

Task 1 - Current legislation and how it is implemented - Research reports on current energy policy, land use planning and landscape practice, including the analysis of legal documents, directives, strategies and programs in Portugal, Spain, Italy, Greece, and Israel.

Task 2 - Questionnaire and in-person interviews with national / regional policymakers on the specifics of public participation practices in siting of renewable energies.

Task 3 - Analysis of EIA procedures focusing on natural and cultural aspects; policy recommendations; in - depth analysis of EIA specific cases across participating countries.

Outputs

- a. Key terms glossary - <http://pearlsproject.org/wp-content/uploads/2019/07/PEARLS-Key-Terms-Glossary-2019-07-30-version.pdf>.
- b. Research Reports - analysis of each country's legal framework for developing and implementing RE landscapes, with specific focus on public participation mechanisms.
- c. Comparative analysis of EIA procedures and involvement of stakeholders and the public during planning and implementation of RE facilities.

Main outputs

- Legislation is a common issue, but due to geopolitical consequences, several regulatory changes are taking place to accelerate RE projects, decarbonization and reducing energy dependency.
- EIA is a fundamental tool to engage public participation, but the EIA must ensure that it includes all social actors involved in the definition, implementation, and control / monitoring of RE installations. It will lead to informed and responsible collaborations in decision making, leading to a participatory society in the transition process.
- The government (local, regional, and national) is still the main actor in promoting and making decisions regarding renewable energy installations; developers, usually even large energy companies, are still the main initiators and promoters of projects.

The capacity of residents, environmental NGOs, and the public to influence renewable energy planning processes remains vague. But public concerns are very similar: demanding more information about the planning projects, and is mostly worried over adverse environmental, landscape and health impacts.

The quality of the renewable energy landscapes may contribute to disseminating new energy behaviours and promoting energy saving, while at the same time they can reinforce the sense of community.

Research Seminar “*Renewable Energy Landscapes and Spatial Planning: A Transnational Mediterranean*”. Faculty of Geography and History of the University of Seville, 25th-26th October 2022.

Work Package 3 - Social Behaviours towards Renewable Energies

Objectives

1. **Identify** different key groups and his patterns of behaviours with the energy and his perception of the landscape.
2. **Determine** the barriers and the factors that prevent the commitment of the key groups with the renewable energies and the energetic efficiency.
3. **Examine** the strategy of the consumer of energy in different regions / states members.
4. **Increase** the consciousness of the key groups and the participation of the authorities, organisations and different parts interested with the renewable energy and the energetic efficiency.

Methological frameworks

Task 1 - Identification of the segmentation of the market (MS) through map of key actors - compiling information on energetic behaviour: segment market into different focus groups to analyse energetic behaviour, draw a key actor map based on results produced by each focus group, calculate a set of indicators that help to determine the barriers and factors that hinder the participation of focus groups in RE and energy efficiency.

Task 2 - Report of Best practices - analyse the consumption strategy in different regions / countries to help identify the best practices - consumers willing to change their energetic behaviour without affecting their quality of life - having access to a secure and affordable energy source - compile list.

Task 3 - Commitment of adhesion/statement - involve the participation of all key stakeholders and develop a letter of support endorsing RE and energy efficiency - statement link.

Outputs

- a. Listing of Key Actors.
- b. Listing of Techniques and instruments of participation.

Statement Supporting Renewable Energy Efficiency

Institutional Declaration in Favour of Renewable Energies, their Role in Energy Efficiency, and their Impact on the Landscape.

In our commitment to sustainability and environmental protection, [Name of Institution] is proud to declare its unwavering support for renewable energy and its relevant role in energy efficiency, fully recognizing its impact on the landscape. We believe in the urgent need for a transition towards clean and sustainable energy sources and its positive influence in several aspects:

- 1. Promotion of Renewable Energy: We advocate for promoting renewable energy sources such as solar, wind, hydroelectric and geothermal as essential means to reduce greenhouse gas emissions and combat climate change.*
- 2. Energy Efficiency: We recognize that energy efficiency is essential to reduce energy consumption and minimize environmental impact. We support implementing technologies and practices that improve energy efficiency in all sectors.*
- 3. Harmonization with the Landscape: We understand that the integration of these technologies in the landscape must be done with sensitivity and respect. We will collaborate with local communities and experts to ensure that projects adapt harmoniously to the environment.*

We are committed to leading the way in adopting renewable energy, promoting energy efficiency, and preserving the natural beauty of our environment. This transition is essential to ensure a sustainable and healthy future for generations to come.

Work Package 4 - Spatial Planning and Analysis

Objectives

- 1. Transfer** of knowledge and **enhance** skills related to Renewable Energy Source (RES) spatial planning/analysis and decision - making methods, processes, and tools.
- 2. Develop** advanced methodologies and tools in RES spatial planning/analysis and decision making incorporating public participation and involvement.

Methodological frameworks

Task 1 - Best Current Practices on REL spatial planning/analysis and decision-making methods (BCP) - relevant knowledge Exchange and skills improvement between academic and non-academic organizations.

Task 2 - Methodologies in Sustainable Energy Planning - Enhancement of existing energy planning methodologies in terms of: (a) spatial criteria selection and inclusion of policy aspects (based on WP2 output) and (b) public engagement reinforcement (based on WP3 and WP5 output) in SEP.

Task 3 - Web - GIS Platform - Application of the methodologies/modules to specific Case Studies via the web-GIS platform.

Outputs

Web-Gis Platform - For all Cases Studies spatial data and thematic maps have been produced and uploaded in the PEARLS Web-GIS platform (WP4 Task 3) by developing suitable integrated site-selection processes and methodologies, where the opinion and the views of the public have been also considered in the relevant decision-making process (WP4 Task 2).

The PEARLS Web-GIS platform can be accessed through the project website (under the banner Web - GIS Platform) or directly at <http://pearls-webgis.geosystems-hellas.gr/>. For implementing the Web - GIS application only free and open - source libraries/tools have been utilized. PEARLS Web - GIS platform acts both as a dissemination platform for the PEARLS project results, but also as a public awareness tool upon the RE installation issues for all PEARLS WP4 Case Studies.



Energías renovables FOTOVOLTAICA

¿QUÉ OPINAS?

1 Diciembre 2022, 18:00 - 20:00
Ayuntamiento de La Palma del Condado

Debate estructurado para *informar, validar, consensuar*

- ¿Qué paisajes queremos preservar?
- ¿Cuánto paisaje queremos ocupar?
- ¿Cómo queremos que sean las plantas fotovoltaicas?

PROGRAMA

18:00_Saludos institucionales | Alcalde D. Manuel Garcia Félix

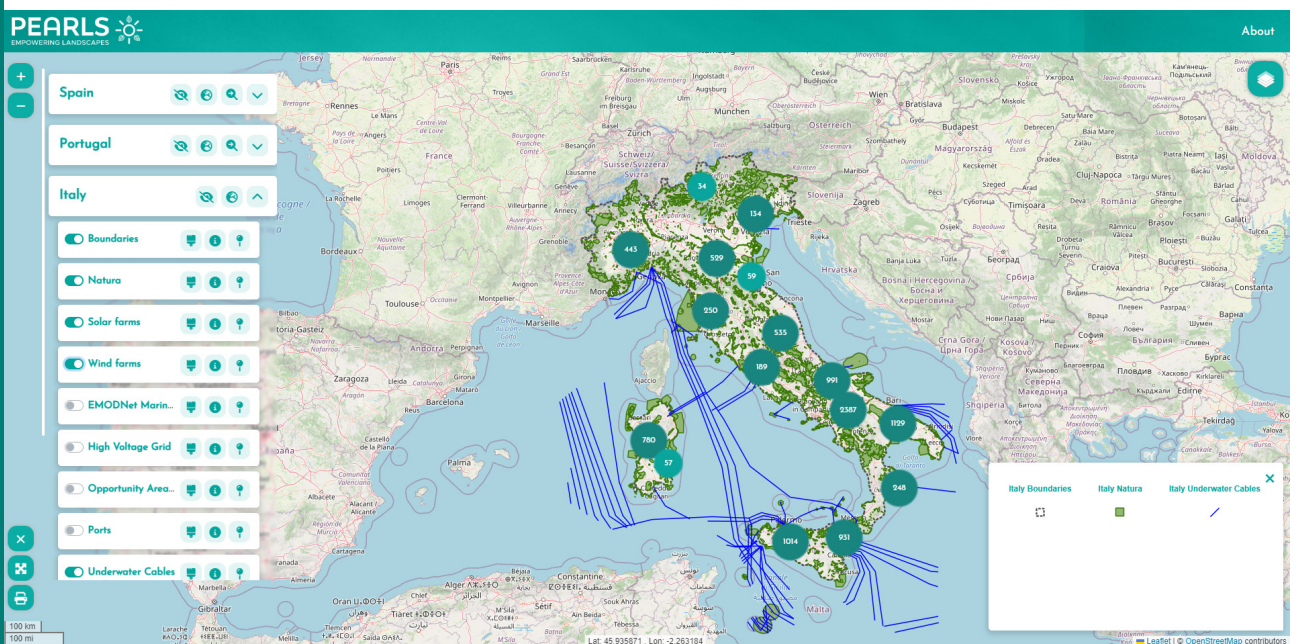
18:15_Presentación del estudio | Arq. Michela Ghislanzoni

18:45_Mesa de trabajo con la ciudadanía

19:45_Conclusiones comunes



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Work Package 5 - Social Innovation and Public Engagement Progress Report

Objectives

1. **Identify** and replicate social innovations in the field of renewable energies in the consortium countries.
2. **Appraise** innovative practices in public engagement in renewable energies.
3. **Strengthen** the cultural dimension of renewable energy development processes.
4. **Promote** training and dissemination of methodologies for public engagement.

Methodological frameworks

Task 1 - Case studies (CS) of social innovation and entrepreneurship in the energy sector - identification of relevant cases of social innovation regarding renewable energy (novel more sustainable solutions to problems such as community opposition, landscape impacts, underdeveloped RE generation potential) through document analysis and interviews with stakeholders.

Task 2 - Landscape and cultural analysis (LCA) - to assess the effects and impacts on the landscape that have that the facilities implemented by citizen energy communities identified in the WP5 case studies.

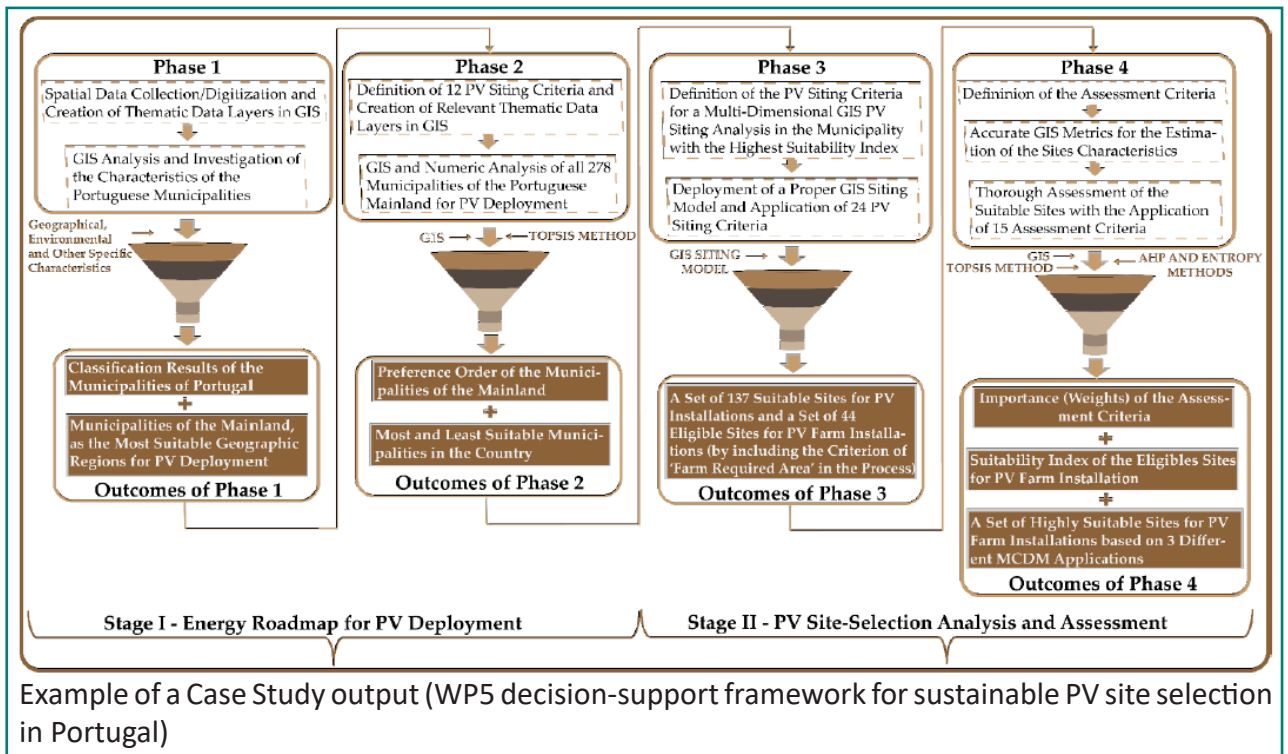
Task 3 - Training (T) in social analysis and participatory methods - organisation of a methodological course on social analysis and participatory methods aimed at researchers and technicians from business and civil society organisations.

Outputs

a. Training Course on Methodologies for public engagement - The event took place online on the 27th - 29th March 2023. Researchers from ICS ULisboa and from the company Ethics for growth shared knowledge on citizen engagement, a toolkit for policy co-design and implementation and Future studies applied to community engagement. 24 members from 11 organisations of the PEARLS team registered for the course and between 7 and 11 participants attended each session.

b. Seminar on Social Innovation and Public Engagement - The seminar took place in hybrid form (at ICS and online) on the 20th of June 2023. Researchers from ICS ULisboa (PT), Coopernico (PT), Territoria (ES), Universidad Pablo de Olavide (ES), and Ethics for growth (IT) shared knowledge on energy communities, based on the secondments and the research work that has been conducted throughout the project. The seminar was open to the public and was publicised in the usual channels of ICS and the Research Group SHIFT. 19 persons registered to participate online, 5 of them external to the project (4 from a Portuguese government agency of the energy sector). On the day of the seminar, five persons were present at ICS and 14 joined online.

WP5 - Social Innovation and Public Engagement Progress Report



Example of a Case Study output (WP5 decision-support framework for sustainable PV site selection in Portugal)

Expected Impacts	If achieved and how
Generation of stronger awareness that change in the energy model cannot occur without a change in the population's behaviour towards energy.	Done - via the training course and seminars, awareness was raised - from consumers to prosumers.
Reproduction of public participation schemes to support renewable energy projects developed in countries in Southern Europe and in Israel and to export these experiences to an international audience as good practice.	Done - research reports and best practices in countries of the consortium may be a starting point for discussion in other countries in EU.
Generation of evidence-based training materials on social innovation and public engagement tools for use in renewable energy development and other research contexts.	Done - WP4 seminars & development web-gis platform.
Development of a network of researchers, technical staff and policy makers across different sectors and national contexts with in-depth expertise in spatial planning and energy policy.	Done - Via the Consortium: knowledge exchange through secondments + questionnaires to different stakeholders related to the energy sector + case studies.
Stimulation of new trans-methodological approaches to support investigation into social and technological issues by different research and innovation staff.	Done - Staff involvement from different sectors and joint efforts of various disciplines such as Sociology, Geography, Architecture, Landscape Planning, Civil Engineering, Economics and Public Planning.
To favour the involvement of the public at large in the Energy Challenge debate (from those who are unfamiliar with it to those who are most in favour of/against renewable energies).	Done - interviews made with the population to take the discussion locally and to be aware of the impact of such decisions on people and their quality of life.
To spark sensitivity to a Low Carbon Economy and the advantages that it has for new life patterns on the individual level and for society.	Done - promoting renewable energy communities or small-scale production systems heavily supported by citizens.
To generate new channels of communication between society, researchers, and companies by way of everyday formats, such as social networks and Internet video channels.	Done - a news update on the webpage, online seminars open to the public.
To foster the involvement of young researchers in the dissemination of research results as a complementary way of extending the outreach of their scientific production.	Done - active participation of young researchers in dissemination actions (e.g. dissemination events, scientific papers).
To ensure equal and inclusive participation in events promoted by participant organisations in collaboration with local institutions and authorities in their own countries.	Done - events were organized in strong collaboration with local organizations from Spain, Greece, Italy and Portugal during the project.

What more can be done to ensure that the change keeps on going?

- Promote the results & tools within the different stakeholders that participated on the project.
- Share knowledge throughout the EU countries.
- Create more channels of communication to reach the public.
- "Sell" the web - gis platform for further studies or projects on RE landscapes - to help make better decisions & increase awareness with the public of the impacts of these installations.

When we started the PEARLS project in 2018, the United Nations Sustainable Development Goals already held fossil fuels responsible for climate change, making renewable energies an essential asset for mitigating global warming. Assuming world heterogeneity in terms of supply needs, access to resources and technology, and the contrasting relationships of the population with renewable energies, PEARLS has based its analysis on **two fundamental premises**: i) the **favourable attitude** of Southern European countries and Israel towards renewable energies, and ii) that any approach should be made from the perspective of **renewable energy landscapes** and from a **transdisciplinary perspective**. In contrast to the widespread opinion that the change in the energy model is a technological and economic challenge, PEARLS aimed to demonstrate that **change requires a strong social commitment**.

Energy is essential as an engine of the economy, a weapon of war in international conflicts, a driver of civic movements and, as mentioned above, a key topic at international summits. Social concern on energy can be found in social media and the press headlines, which focus on 'Not in My Backyard', among other things. In the post-pandemic context and in a geopolitical crisis caused by the war between Russia and Ukraine, the population is particularly sensitive to catastrophe, even showing signs of alarm in the face of a global blackout. The European Union's energy dependence and its ability to generate currents of thought have led it to adopt ambitious energy policy goals. This puts the renewable energy landscapes that emerge from the territorial roll-out of clean energies even more at the heart of the debate. For the PEARLS Project, renewable energy landscapes represent an **opportunity** to give thought to the consequences for the landscape of the socio-technical transition due to the regional differences inherent in their implementation in Southern Europe and Israel.

The MSCA RISE call has provided the opportunity to analyse these landscapes from a dual crossdisciplinary and cross-sectoral perspective. **Joint efforts of disciplines** such as Sociology, Geography, Architecture, Civil Engineering, Economics and Public Planning constitute an enrichment as they allow the sharing of different visions on renewable energy landscapes, as well as different strategies on how to address changes in renewable energy landscapes from the perspective of companies and academia. The **implementation of the project through secondments** has also been a key part of information and knowledge exchange in addition to the personal experience it has afforded. The opportunity to analyse in person the impact of renewable energies in the **case studies** has enabled regional differences to be incorporated into the analysis. What is understood by regional differences is the set of social, economic, cultural and geographical characteristics that are normally considered in territorial analysis. Regional differences approach the analysis of case study issues based on the recognition that a **territory's uniqueness and specific features** are key factors for addressing and resolving problems. The PEARLS project takes interregional differences into account for two fundamental reasons. The first is that the project's territorial coverage compels the choice and analysis of case studies or other examples. The second is that the transition to a low carbon economy is

putting great emphasis on citizens as the prime actors tasked with dealing with this challenge.

The climate and energy crises in the context of the Russia-Ukraine war have resulted in an aboutturn in the actions carried out by the European Union. Initially, the uncertainty of achieving political objectives and commitments led to strong support for the implementation of large-scale renewable energy installations in terms of generation and surface area. Despite the growth of renewable energy production, this failed to become established as a real alternative to fossil fuels, with distortions generated in the energy market and significant territorial tensions. As a result, distributed energy from renewable sources has been allowed to surge into production, with the committed involvement of the population, and the participation of small supply companies and the repositioning of large energy companies trying to find their place in this concept. The regulatory, financial, and jurisdictional frameworks of the transition process have huge impacts on territories. Despite this, **territory and land have been absent from the debate on energy**, or rather, they have been appropriated by large generation and distribution infrastructure in rural and natural environments, affecting the landscape and replacing land use and agricultural activities. Renewable energy landscapes are spaces perceived by the significant presence of infrastructure for the production and distribution of energy from renewable resources, compromising rural territories and condemning them to a secondary role. Inasmuch as urban sustainability policies are being implemented based on consolidating the dependence and subordination of rural areas, and given that the EU's new roadmap is to promote the transition of the population from consumers to prosumers, the urgency of **implementing social innovation measures** that integrate the population and territory in this transition is both evident and necessary as these two models have an impact on landscapes, territories, villages and large cities. The energy transition is proceeding at a slow but inexorable pace.



PEARRLS

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