PLANNING AND ENGAGEMENT ARENAS FOR RENEWABLE ENERGY LANDSCAPES

PEARLS

Marie Skłodowska - Curie Actions (MSCA)

Research and Innovation Staff Exchange (RISE)

H2020-MSCA-RISE-2017 – 778039 - PEARLS

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 778039.

Document Title	Digital Marketing Strategies and follow-up questionnaires
Version	1.0
Status	Final version
Work Package	WP1
Deliverable Type	Report
Contractual Date of Delivery	2023-10-31
Actual Date of Delivery	2023-11-15
Responsible Unit	USE
Contributors	USE; CLANER; Territoria; ICSUL; ENERCOUTIM; COOPERNICO; UNITN; AUTH; GSH; CONSORTIS; CONSORTIS Geo; SP Interface; BGU; UHU; UPO; HABITECH; E4G
Keyword List	Digital marketing; questionnaires; international; multisectoral.
Dissemination level	Public

Version	Date	Status	Author (Unit)	Description
0.1	2023-11-15	Draft	UNITN	First Draft of Report
0.2	2023-11-16	Draft	UNITN-USE	Second Draft of Report
0.3	2023-11-20	Draft	USE	Third Draft of Report
0.5	2023-11-27	Final version	USE	Report

Abstract

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

These surveys were carried out in two time periods (2019-2023) where different countries were included: Spain, Portugal, Italy, Greece, and Israel. Furthermore, these questionnaires were prepared for professionals from different sectors: business; civil-society-organisation; science-academia; public administration; and others.

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1. Introduction

This document presents the **Report on the Follow-up Questionnaire**, an action carried on together within WP1, WP2 and WP3, designed using Google modules, to interrogate an international multisectoral panel of experts about PEARL*S* progress with the aim of providing information cuts to the media and to disseminate results to a broad multidisciplinary scientific audience. Each country prepared a list of national experts (at least 10 per country) coming from associations, private and public organizations as well as research centres, to form the international multisectoral panel that has been invited to fill in the questionnaire in two steps, 2019 and then 2023, so to follow and to update the project developments and results.

Each expert is provided with all necessary information about the PEARL*S* project, and it is required to fill in the consent form document.

Results of the first phase of the FUQ: 33 national experts out of 50 answered the questionnaire (for a percentage of 65%). Partners decide not to send another reminder to missing experts and to proceed to the second phase of the FUQ. In 2023, the responses were positive (26 respondents) although there were also absences for various reasons: retirement, company changes or simply no response.

In the next chapters, the results of the questionnaire are analysed and discussed.

2. Follow-up questionnaire

Regarding WP2 and WP3, there will be the development of concise online follow-up questionnaires (F-Up Q) to engage an international multisectoral panel of experts in discussions regarding the advancement of PEARLS. The goal is to generate information snippets for media use and to share results with a wide-ranging, multidisciplinary scientific audience (D.1.2).

2.1. Participants

As written in the Introduction, a survey was administered online through Google Forms shared with 10 experts in renewable energy sources implementation in each involved Country (Spain, Portugal, Italy, Greece, Israel). The participants were asked to answer the same questions in two different moments (2019 and 2023). In 2019, 33 of the 50 experts answered the questionnaire covering each Country. In 2023, 26 experts answered the questionnaire. Within the received answers, 17 participants answered the questionnaire in both periods (Figure 1).

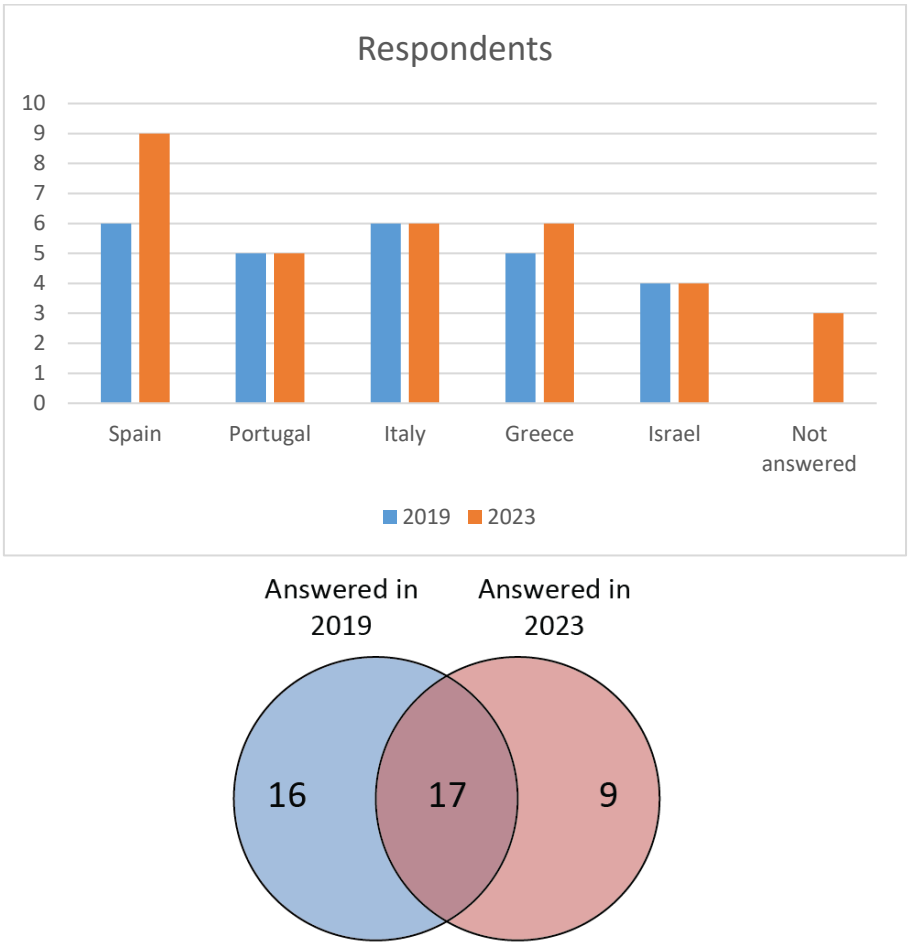


Figure 1 Number of respondents by country and by year of response

The group of respondents includes representatives of different job sectors: science and

academia, business, public administration, civil society organizations and others (not specified) (Figure 2).

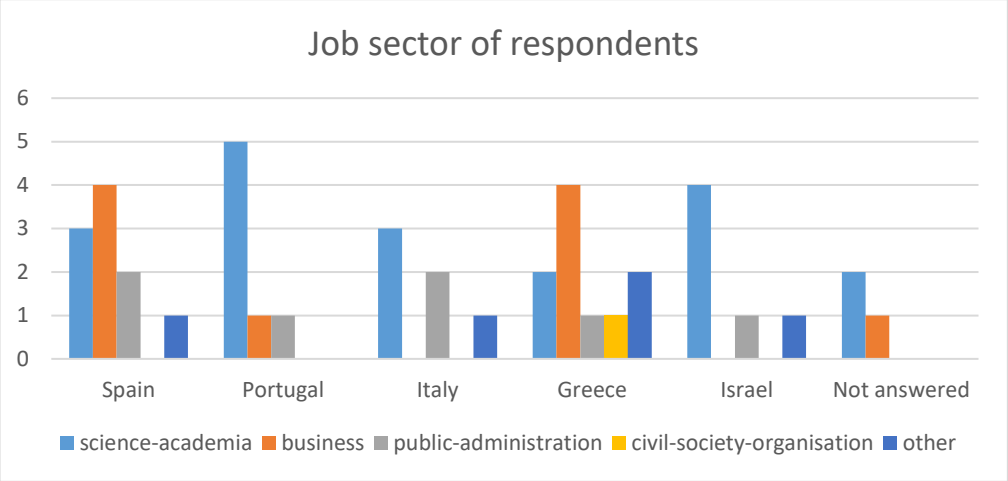


Figure 2 Number of respondents by country and by job sector

The survey took an average of 10 minutes to complete and was previously tested by the Steering Committee of the PEARLS project.

2.2. Questionnaire design

The questionnaire was composed of an introductory part including the presentation of the project, the information sheet, and the consent form. The three documents are included in the appendix. The questionnaire was structured in four sections:

(1) Country of origin and job sector,

(2) Opinion on renewable energy sources, energy behaviour and social innovation

(3) Opinion on organizations, strategies, and actions to implement renewable energy sources,

(4) Opinion on landscape threats.

2.3. Data analysis

The survey is mostly based on Likert scale questions, on matrices based on a series of Likert questions, an open-ended question (Q15). Moreover, several questions offer the respondents the opportunity to add comments or further explain their answers (Q6, Q7, Q11). To visualize the results of the close-ended questions in most cases the percentage of each answer has been calculated and used to build bar or pie charts. In the case of the matrixes, stacked bars are used to visualize the results, allowing us to see the percentage or the number of single rates for each option. The feedback obtained from the open-ended question was visualized through a word cloud, and the comments given in Q6, Q7, and Q11 are just listed in the comments of each question. Besides the visualization of the results, each question was analysed to investigate trends according to the country of origin and the job sector. Moreover,

a comparison has been performed between the answers given in 2019 and in 2023 by the participants who responded in both temporal phases.

3. Results

This section presents some considerations based on the visualization of the questionnaire results. Considering the results, renewable energy sources (wind energy, solar power, hydro-power, biomass plant) are mostly supported or fully supported, nuclear power and fossil fuel power mainly received oppositions, while waste incineration is mainly supported, but with a consistent number of people neither supporting or opposing, opposing, and fully opposing it (Q2 – Figure 3).

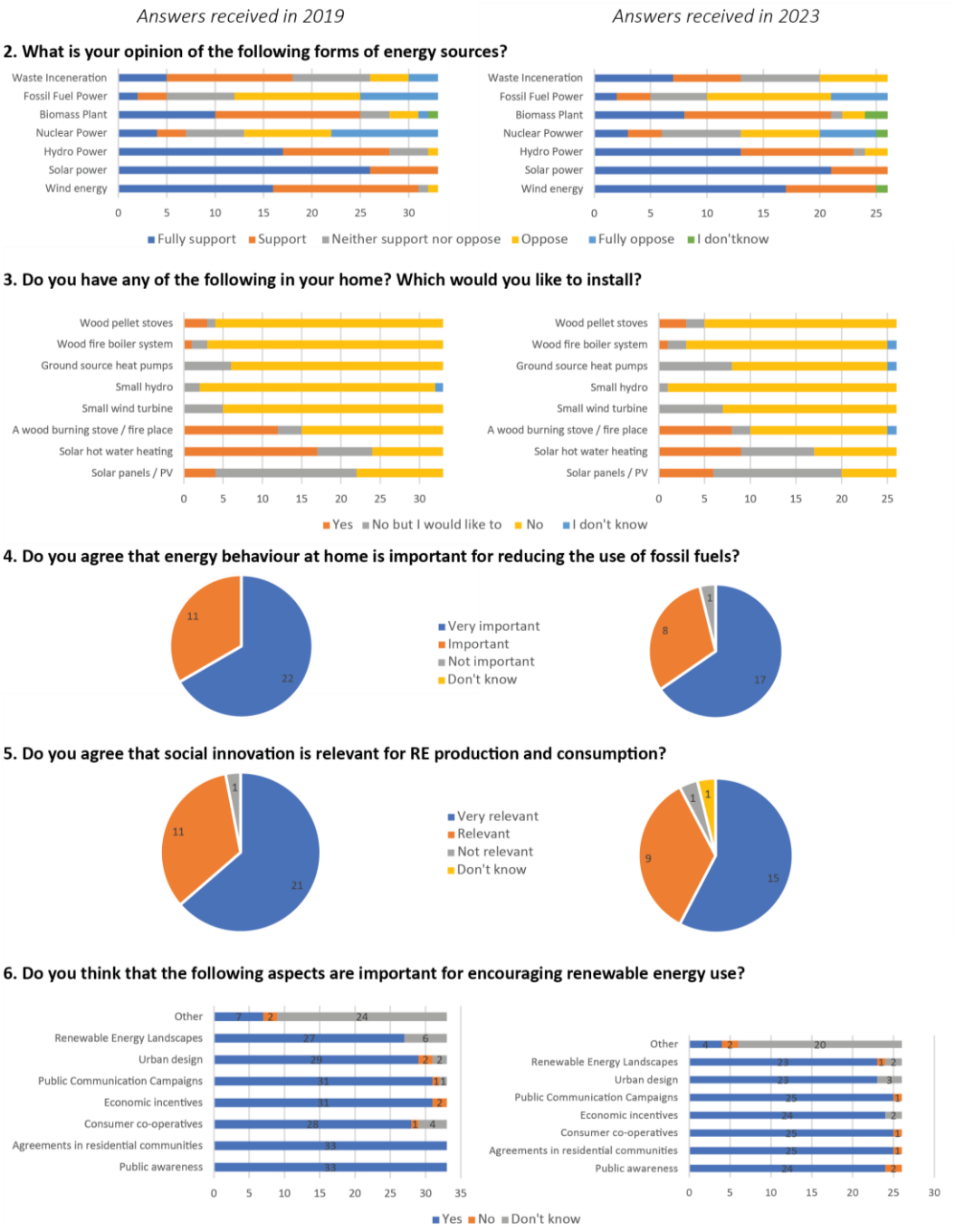


Figure 3 Visualization of the answers to Q2, Q3, Q4, Q5

Regarding the types of installation that the respondents have in their homes (Q3 - Figure 3), most of the respondents have or would like to have solar panels, PV and solar hot water heating. Most of the respondents declare not to have small wind turbines, small hydro, ground source heat pumps, wood fire boiler systems or wood pellet stoves.

Almost all the respondents consider energy behaviour at home important for energy reduction (Q4 - Figure 3) and social innovation for energy production and consumption (Q5 - Figure 3). Almost all the respondents consider important the following aspects encouraging renewable energy use: renewable energy landscapes, urban design, public communication campaigns, economic incentives, consumer co-operatives, agreements in residential communities and public awareness (Q6 – Figure 3).

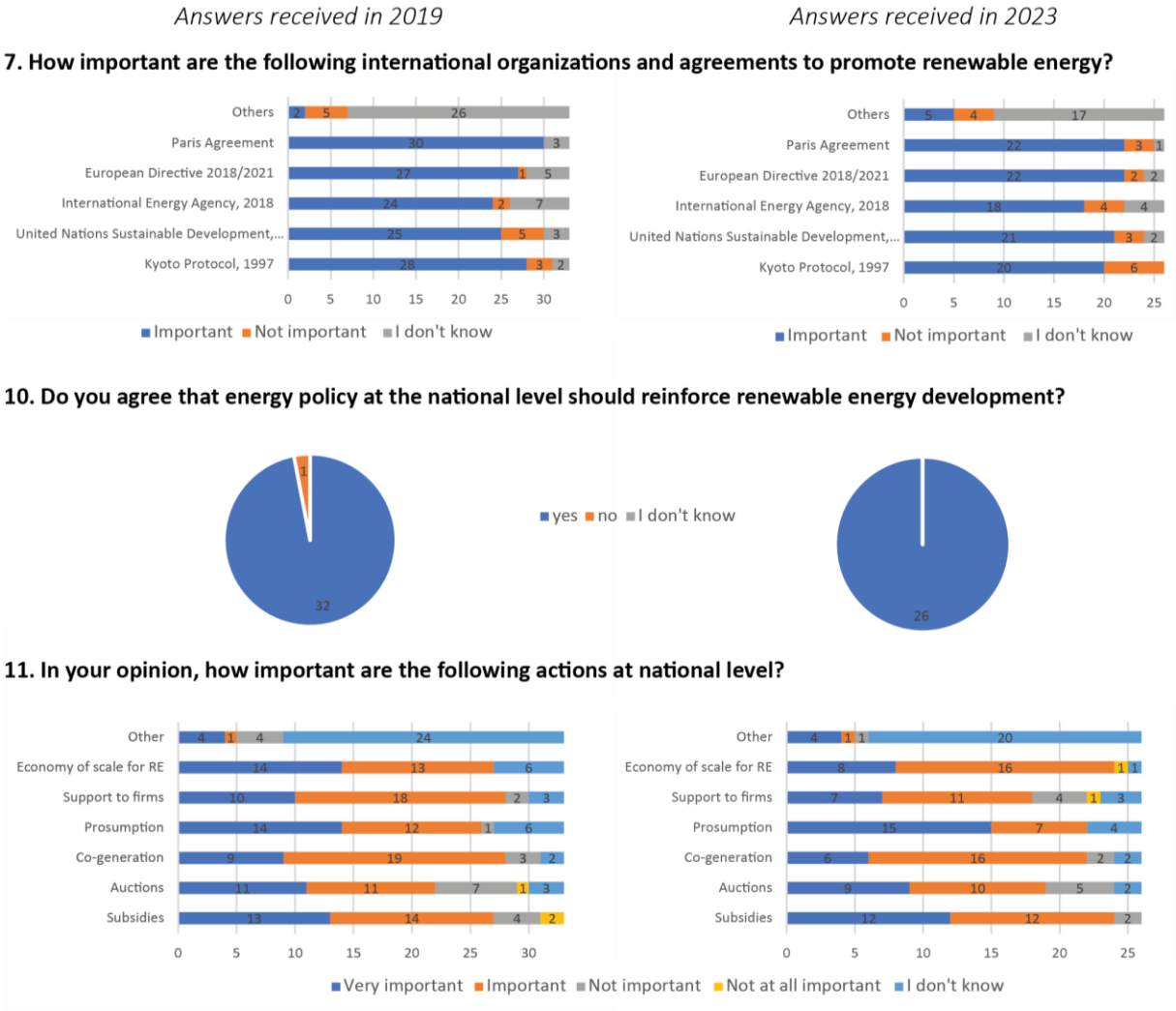


Figure 4 Visualization of the answers to Q6, Q7, Q10, Q11

Most of the respondents consider important the international organizations and agreements

(Paris Agreement, European Directive 2018/2021, International Energy Agency, UN SDGs, Kyoto Protocol) (Q7 – figure 4). Moreover, some respondents mention as important also European Commission, World commitment and financial commitment and funding, NGOs, European Union climate policies (Green Deal), IRENA, ISES, REN21 and EPBD, 'Fit for 55' package, and European Climate Law. A respondent clarifies that in his/her opinion these agreements are not relevant for the implementation of renewable energy sources. Almost all the respondents consider energy policy at the national level an important asset for renewable energy development (Q10 – Figure 4). Most of the respondents consider the actions taken at the national level (subsidies, auctions, co-generation, presumption, support to firms, economy of scale for RE) important for the implementation of renewable energy sources (Q11 – figure 4). However, auctions are those considered important by fewer respondents. Other actions mentioned as important are linked to the social dimension (school education, social awareness campaigns, transparency), to the legislative dimension (schemes for community ownership, coordination of national policies with regional authorities, administrative simplification for the citizen and energy communities, access to virtual and hybrid power plants, include smart grids and management of networks in legislation), to the economic dimension (fiscal incentives, crowdfunding, fines, taxes, relevant national investments) and urban planning and design (recycle).

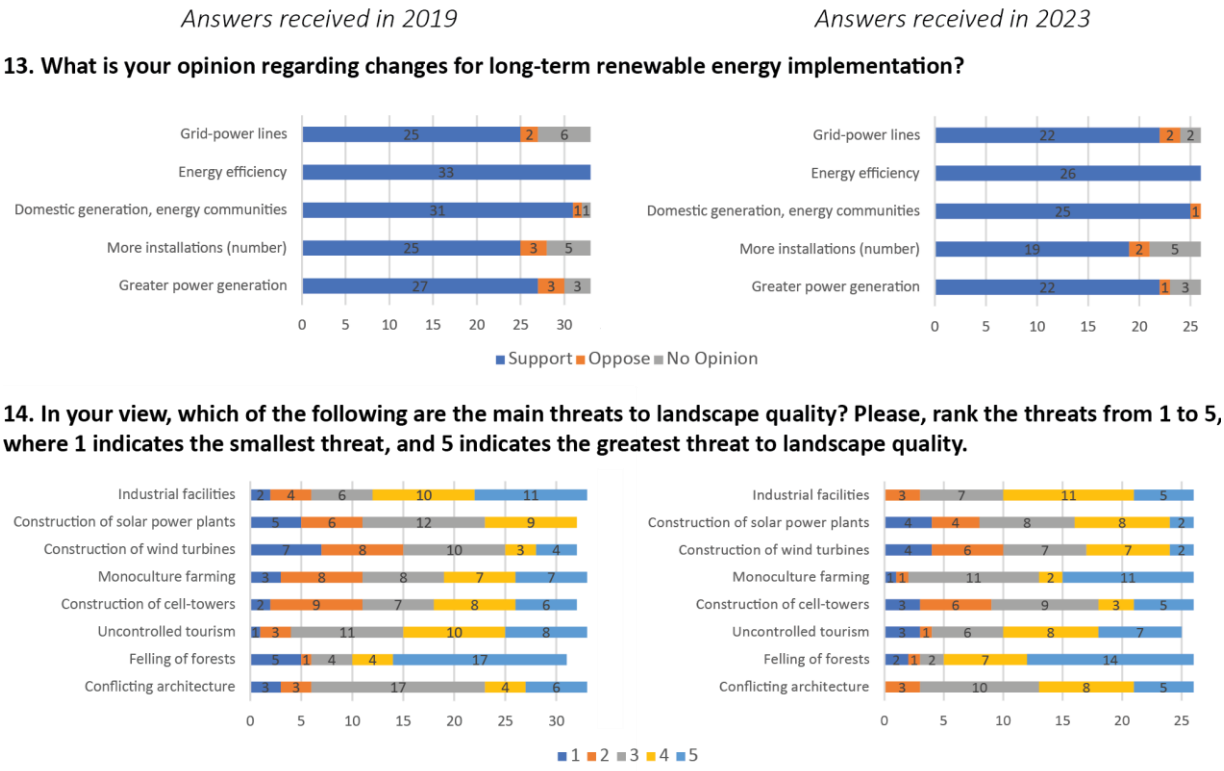


Figure 5 Visualization of the answers to Q13, Q14

Most of the respondents are in favour of all the proposed long-term changes (grid power lines, energy efficiency, domestic generation, more installations, greater power generation). However, a relevant number of respondents have no opinion on the effectiveness of grid-power lines, more installations in number and power generation (Q13 – Figure 5). Regarding landscape threats, the respondents consider the greatest impacts derived from the felling of forests, industrial facilities, and uncontrolled tourism. The construction of solar power plants and wind turbines appear to be the smallest threats to landscape quality (Q14 – Figure 5).

Figure 6 Visualization of the answers to Q15

Finally, the respondents have been asked to describe the desirable future renewable energy landscape. The insights of the respondents have been presented as a word cloud, in which the dimension of the words represents the times it has been mentioned (Figure 6).

3.1. Differences based on the origin of the respondents.

As mentioned in the previous section, all the answers have been analysed according to the origin of the respondents. Given the number of answers received and the unbalanced number of respondents in each region, the results are not statistically significant to draw specific trends. However, some insights can be highlighted. The respondents from Israel oppose each international agreement by at least 10%. More than 30% of the Italian respondents oppose the Kyoto Protocol (1997), but the reason could be that this agreement has been overcome by new organizations (Q7 – Figure 7).

7. Opinion on international organizations and/or agreements to promote renewable energy

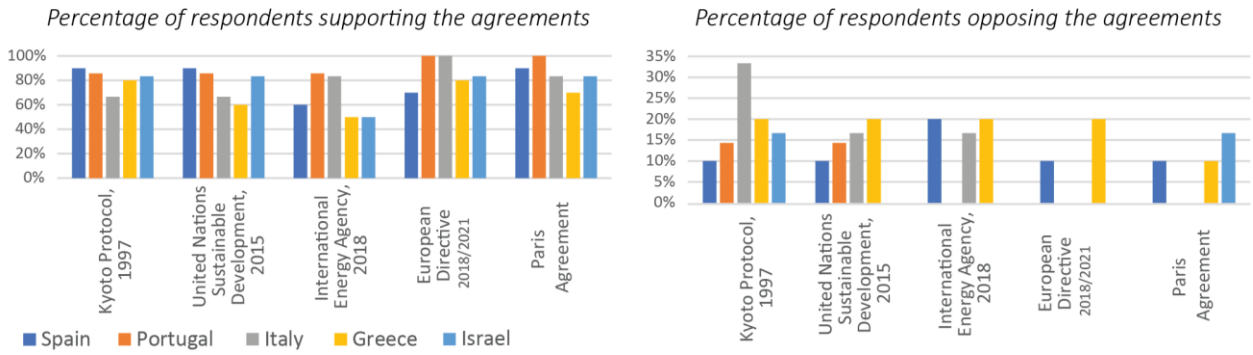
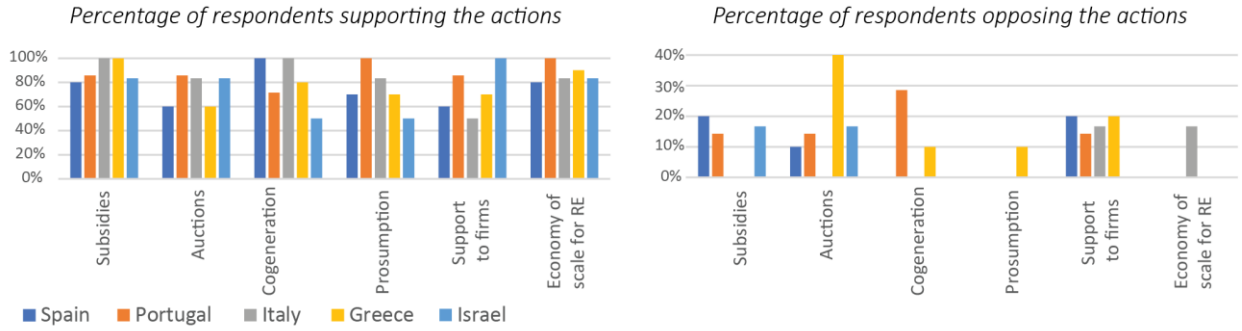


Figure 7 Opinion on international agreements and organizations

11. Opinion on the importance of the following actions at national level



14. Opinion on the following landscape threats

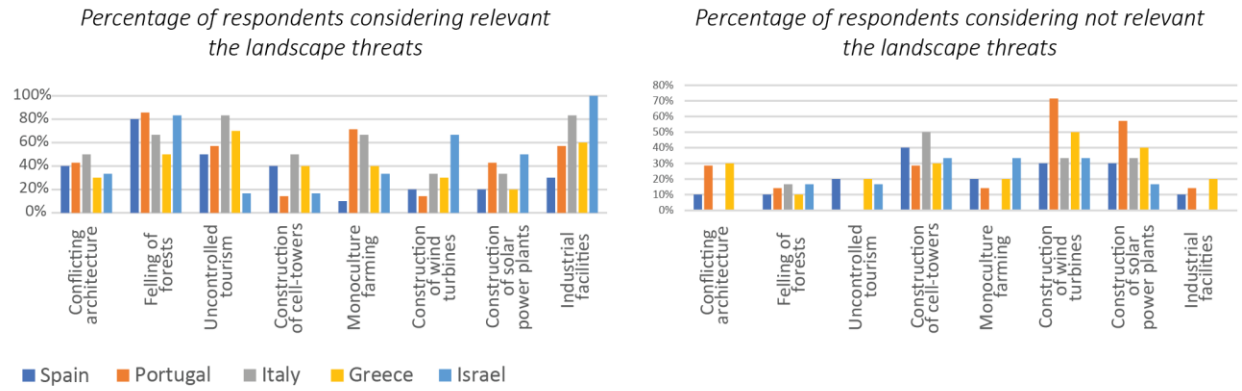


Figure 8 Opinion on actions at the national level and landscape threats

Regarding actions at the national level, 40% of the respondents from Greece do not consider auctions relevant for the implementation of renewable energy sources (Q11 – Figure 8). In Portugal, the most relevant landscape threats are considered felling of forests and monoculture farming; in Spain felling of forests and uncontrolled tourism, in Italy uncontrolled tourism and industrial facilities; in Greece uncontrolled tourism and industrial facilities, in Israel felling of forests and industrial facilities. In regard with renewable energy sources, Portugal respondents are not concerned with landscape impacts, while in Israel more than

50% of the respondents recognize them as impacts (Q14 - Figure 8).

3.2. Differences based on the job sector of the respondents.

As mentioned above, each answer has been analysed in relation to the job sector of the respondents. Similarly, to the analysis in relation to the origin of the respondents, the number are not statistically significant to draw trends. However, some insights can be highlighted.

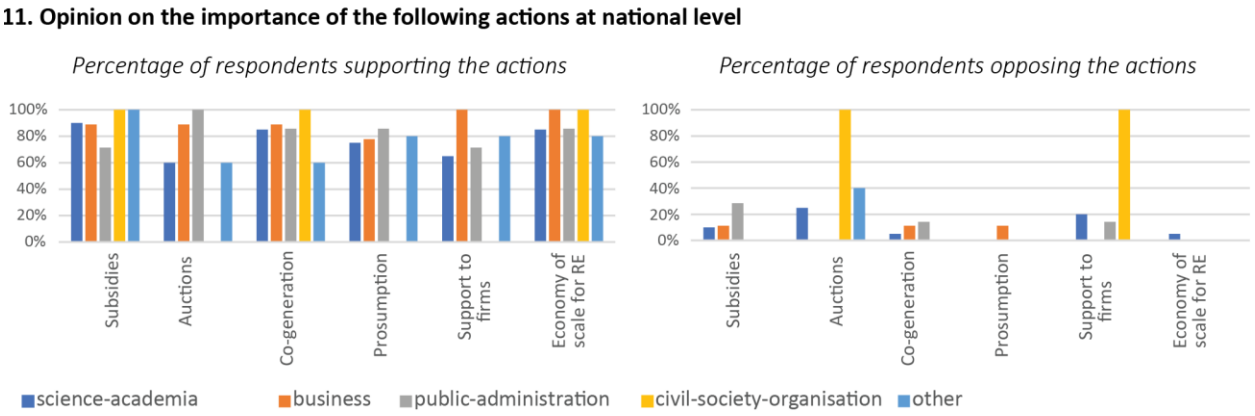


Figure 9 Opinion on actions at the national level

In general, there is a support to the actions at the national level to implement renewable energy sources. However, 100% of the respondents belonging to civil society organizations do not support auctions and support to firms (Q11 - Figure 9).

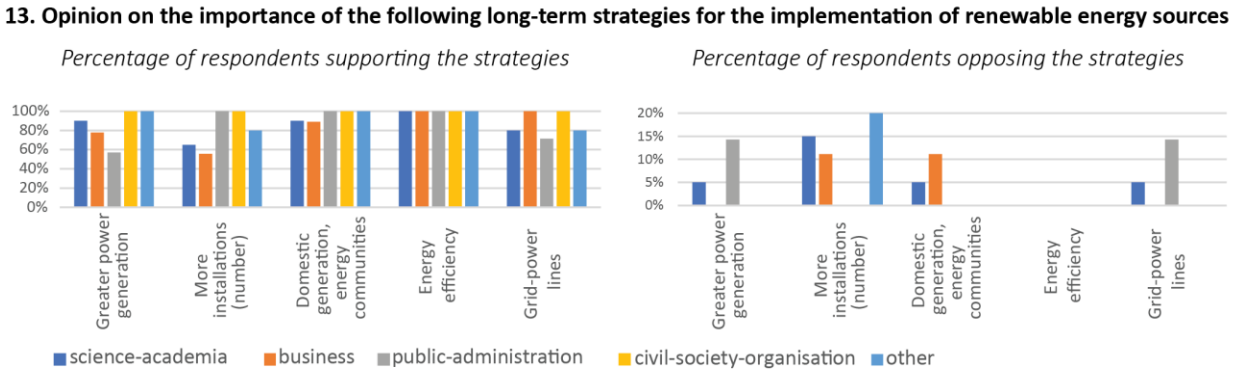


Figure 10 Opinion on long-term strategies for the implementation of renewable energy sources

In general, there is a wide support to the long-term strategies for the implementation of renewable energy sources. However, respondents belonging to academia seem to disagree on the need to have more installations in number, as well as respondents belonging to the business sector. The latter also seem to support less energy communities and domestic generation. Respondents coming from public administrations seem to oppose greater power generation and grid power lines (Q13 – Figure 10).

3.3. Analysis of changes of opinion

Considering only the respondents who took the questionnaire both in 2019 and in 2023 (17 experts), each question was analysed to investigate if there was a change of opinion.

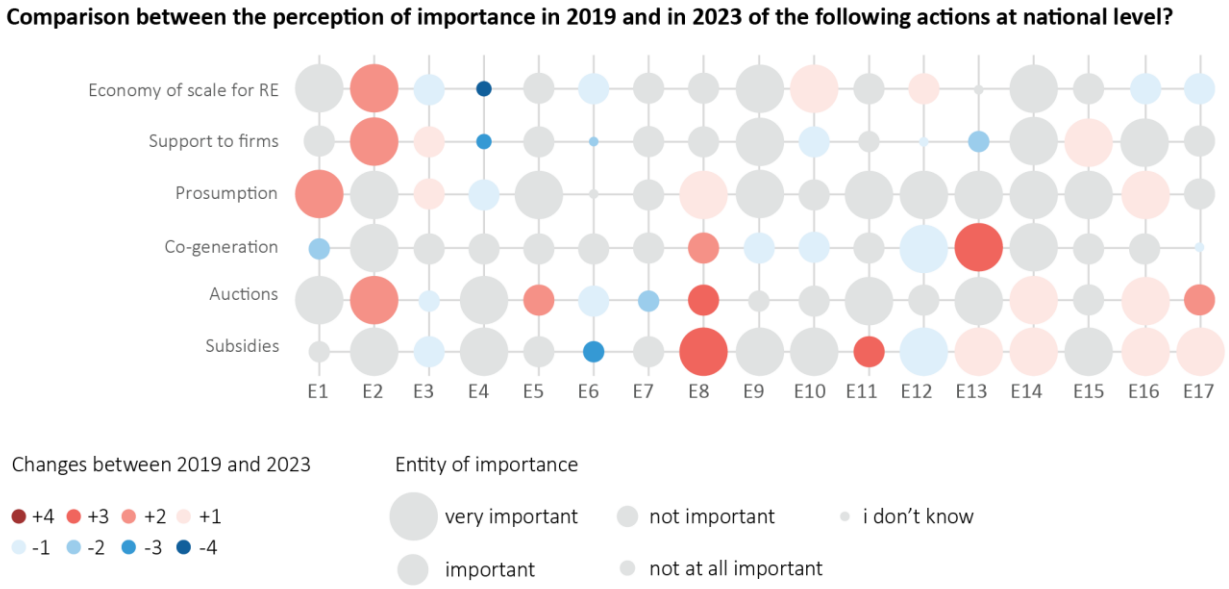


Figure 11 Differences between answers given in 2019 and in 2023 on the action taken at the national level

Figure 11 represents the changes in opinion on the actions taken at the national level. The dimension of the circles represents the entity of importance of the action for the implementation of renewable energy sources. The colour of the circles represents the entity of change of opinion: the red colours indicate an increase of importance, the colours blue indicates a decrease of importance, while the grey indicate no change of opinion (Figure 11).

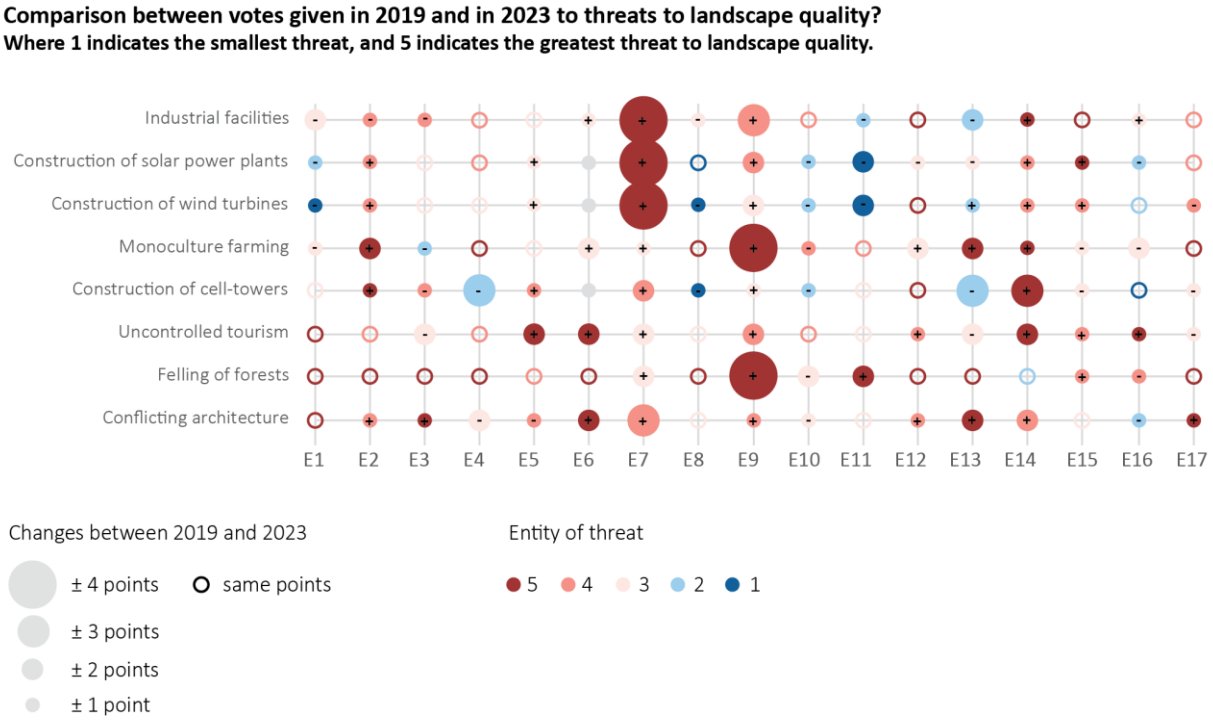


Figure 12 Differences between answers given in 2019 and in 2023 on the landscape threats

Figure 12 shows the changes of opinion on the entity of landscape threats. The dimension of the circles indicates the entity of the change, which is associated to the symbols of "+" or "-" to represent an increase or a decrease of importance. The colour of the circles indicates the entity of the threat (Figure 12). For example, two experts (E7 and E9) strongly changed their mind on the entity of threats. The changes of opinion are mostly an increase of the entity, which could be associated to an increase of landscape integration awareness and of landscape sensitivity.

4. Annexes

5.1 Survey https://pearlsproject.org/work-p-1/2603-2/

1. You e-mail address

2. What is your opinion of the following forms of energy sources?

- Wind energy .- Solar power .- Hydro power .- Nuclear power .- Biomass plants .- Fossil fuel power .- Waste incineration

- Fully support
- Support
- Neither support nor oppose
- Oppose
- Fully Oppose

3. Do you have any of the following in your home? Which would you like to install?

- Solar panels / PV .- Solar hot water heating .- A wood burning stove / fire place .- Small wind turbine .- Small hydro .- Ground source heat pumps .- Wood fired boiler system .- Wood pellet stoves .- None of the above

- Yes
- No, but I would like to install
- No
- Don't know

4. Do you agree that energy behaviour at home is important for reducing the use of fossil fuels (oil/gas/coal etc.)?

- Very important
- Important
- Not important
- Not at all important
- Do not know

5. Do you agree that social innovation is relevant for RE production and consumption?

- Very relevant
- Relevant
- Not relevant
- Not at all relevant

- Do not know

6. Do you think that the following aspects are important for encouraging renewable energy use?

- Public awareness .-Agreements in residential communities .- Consumer co-operatives .- Economic incentives .- Public Communication Campaigns .- Urban design .- Renewable Energy Landscapes .- Other

- Yes
- No
- Do not know

7. In your opinion, how important are the following international organizations and/or agreements to promote renewable energy?

- Important
- Not important
- Do not know

- Kyoto Protocol, 1997.- United Nations Sustainable Development, 2015 .- International Energy Agency, 2018 .- European Directive 2018/2001 .- Paris Agreement .- Others

8. Do you agree that energy policy at the national level should promote renewable energy development?

- Important
- Not important
- Do not know

9. (Only in case of answering "other" in 7.) What other organizations or agreements do you suggest?

10. Do you agree that energy policy at the national level should reinforce renewable energy development?

- Yes
- No
- Do not know

11. In your opinion, how important are the following actions at national level?

- Subsidies .- Auctions .- Co-generation .- Prosumption .- **Support to firms** .- **Economy of scale for RE** .- **Other**

- Very important
- Important
- Not important

- Not at all important
- Do not know

12. (Only in case of answering "other" in 11.) What other actions at national level do you suggest?

13. What is your opinion about regarding necessary changes for long-term renewable energy implementation?

- Greater power generation .- More installations (number) .- **Domestic generation, energy communities** .- **Energy efficiency** .- **Grid-power lines**

- Support
- Oppose
- No opinion

14. In your view, which of the following are the main threats to landscape quality? Please rank the threats from 1 to 5, where 1 indicates the smallest threat, and 5 indicates the greatest threat to landscape quality.

- Dam construction .- Conflicting architecture .- Felling of forests .- Uncontrolled tourism .- Construction of cell-phone towers .- Monoculture farming .- Construction of wind turbines .- Construction of solar plants .- Industrial facilities

- 1
- 2
- 3
- 4
- 5

15. How would you describe your 'desirable future renewable energy landscape'?

16. What is your sector of activity?

- Public administration
- Business
- Civil society organisation
- Science/academia
- Other

5.2 PEARL*S* Project information sheet

INFORMATION SHEET PROVISION FOR PARTICIPANTS RELATED TO RENEWABLE ENERGY LANDSCAPES

Planning and Engagement Arenas for Renewable Energy Landscapes

H2020-MSCA-RISE-2017-778039-PEARL*S*

What is the Project about?

Renewable Energy Landscapes are recognised as spaces where the use of renewable power sources transforms people´s relationships with energy and their perception of the landscape. Whilst the social benefits of REL are widely acknowledged across Europe, in Southern European countries and Israel there is still insufficient knowledge to garner strong social support.

The PEARLS project is focus on the wealth of renewable energy sources in these countries and on attaining the deeper involvement of citizens with REL. This project transforms the extent and depth of scientific knowledge on how to best implement REL across Europe and extend these landscapes to other Mediterranean territories that form part of the participant countries' networks.

Who in undertaking the project?

The PEARL*S* consortium consists of thirteen academic and non-academic entities in Portugal, Spain, Italy, Greece, and Israel, as well as three more bodies from Spain, the United Kingdom and Italy that will provide support as an Advisory Board. All the participating organisations have been selected for their diverse, complementary experience and expertise in planning and public engagement in renewable energy in Southern European countries and Israel. All enjoy high international profiles in the Mediterranean Basin and have a proven ability to 'go the extra mile'.

Why have I been approached?

You have been approached because you are in relation with renewable energy landscapes.

Do I have to take part?

No. It's completely up to you and your child/children or teenager to decide whether to take part or not.

If you decide to take part, you will be invited to take part in PEARLS project activities organized by the PEARL*S* Consortium in your country.

Will my data be confidential?

The information provides by you is confidential. Neither you will be disadvantaged in any way if you choose not to take part. All material (electronic or paper) collected for this project will be stored securely at the University of Seville – European Social Research Lab and only the researchers will have access to this:

- Audio and visual recordings will be transferred immediately and stored on a secure encrypted device. Audio recordings will be transcribed and then deleted when the work will be finish. Visual recordings will be archived until 31/12/2018 and then

deleted.

- Paper copies of anonymised interview transcripts will be stored in a locked cabinet separate from any personal identifying details.
- Any personal identifying details will be deleted when the work will be finish.

All files (audio, video and text) on the computer will be encrypted and the computer itself password protected. Extracts of visual and text files will be archived until 31/12/2018 and then deleted.

- The typed version of any group discussions or interviews will be made anonymous by removing any identifying information including your name.
- You will be asked for your permission i) if researchers take photographs or video; ii) if we wish to archive the images and include these in reports or presentations. You may request that images of you are deleted.

What will happen to the results?

Results will be presented at project events which all participants and local and national policymakers are invited. Results will be presented also as publications in scientific or open journals, books, and conferences. And in the project website Other News section.

Are there any benefits from taking part?

Whilst there are no direct benefits from taking part, participating in this project gives those involved the opportunity to share their experiences in a safe environment and influence local and national practice and policy concerning renewable energy landscapes. Also, talking about and sharing experiences as other people are doing in other participant countries can potentially be interesting.

Who has reviewed the project?

This project has been approved by the University Research Ethics Committee at University of Seville, Spain, and follows European Commission guidance on ethics in research.

Where can I obtain further information about the Project if I need it?

If you have any questions about the PEARLS project, please contact the Project Coordinator (or local PEARLS participant):

María-José Prados
mjprados@us.es
https://pearlsproject.org Tel: 34954555921

Thank you for taking the time to read this information sheet.

5.3 Survey Consent Form

CONSENT FORM FOR PARTICIPANTS RELATED TO RENEWABLE ENERGY LANDSCAPES

Planning and Engagement Arenas for Renewable Energy Landscapes

H2020-MSCA-RISE-2017-778039-PEARL*S*

We are asking if you would like to take part in a European project to understand how the use of renewable power sources transforms people´s relationships with energy and their perception ofthe landscape. Before you give consent to participate in the study, we ask that you read the Information sheet and mark each box below if you agree. If you have any questions or queries before signing the consent form, please speak to the person in charge.

Please initial box after each statement:

1. I confirm that I have read the information sheet and fully understand what is expected of me within this study	
2. I confirm that I have had the opportunity to ask any questions and to have them answered	
3. I understand that my participation will be audio recorded and then made into anonymised written transcripts archived securely at Seville University (Spain) until 31/12/2022	
4. I understand that audio recordings will be kept until the Project end. Visual recordings will be securely archived until 31/12/2022	
5. I understand that I am not obliged to take part in this study and can withdraw participation before, during, or up to 2 weeks after an interview, audio or video recording as far as possible up to publication of the final results.	
6. I understand that the information from the interview, audio or video will be pooled with other participants' responses, anonymised and may be published	
7. I consent to anonymised information being used in project activities, such as publications, conferences and project web site.	
8. I understand that any information gives by me will remain strictly confidential and anonymous	

By signing here below I hereby give consent to take part in the PEARL*S* Project

Name _____

Signature _____

Date _____

5. PEARLS Consortium

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6		**ICSUL** Avda Prof Anibal de Bettencourt 9, Lisboa 1600 189, Portugal	Contact: Ana Delicado
7		**ENERCOUTIM** Centro de Artes e Oficios, Rua Das Tinas 1 esq, Alcoutim 8970 064, Portugal	Contact: Marc Rechtel
8		**COOPERNICO** Praca Duque de Terceira 24 4 Andar 24 Lisboa 1200 161 Portugal	Contact: Ana Rita Antunes
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