

D4.12

Update of stakeholders engagement for future marketability



THE GREEFA

Thermochemical fluids in greenhouses

DISCLAIMER

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Document References

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¹ PU = Public

PP = Limited to other participants in the programme (including Commission services)

RE = Limited to a group specified by the consortium (including Commission services)

CO = Confidential, only for consortium members (including Commission services)

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V	Date	Beneficiary	Brief description of the contents and/or changes
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1. Executive Summary

This deliverable, D4.12, represents an update of the previous document, D4.5, “Stakeholders Engagement for Future Marketability,” and aims to outline the main outcomes achieved through the Task 4.3 actions up to the project’s conclusion.

In this context, it is based on the principal pillars of the content items from the previous document. More specifically, it focuses on documenting the actions undertaken to foster and stimulate the interest of the identified group of stakeholders in the project’s proposition, and to derive insights for subsequent exploitation tasks to be performed after the project’s completion.

The relevant and significant outcomes achieved through direct interaction with the project’s stakeholders during meetings, trade fairs, and dedicated webinars are outlined in the final section of this document and summarised here.

From an economic perspective, stakeholders who are more directly involved in the installation and maintenance of crops and related infrastructure (e.g., owners of greenhouses, industrial buildings and other large spaces, but also academia and research organizations owning greenhouses, fields for research purposes) have been presented with economic forecasting data prepared by the consortium.

The feedback received is summarized in an aggregated form, which includes the responses from stakeholders in the first three groups, as follows:

- 15% are interested in the project’s proposition with an economic contribution, namely they are ready to invest own money
- 17% are interested in the project’s proposition without an economic contribution, more specifically they need incentives and are not ready to invest own money
- 50% are interested to continuously receiving information and data to be assessed for potential future adoption

These data have been more in depth analysed per each group, and the achieved breakdown can be summarized as follows:

- The feedback from the engaged business companies (namely greenhouses and industrial buildings) is consistent. One-third are interested in the proposition even without contributions. The majority, however, express interest in being continuously updated on the project’s progress for potential future adoption when the solution is more developed.
- Academia and Research demonstrate a lower interest (about half of the percentage compared to the feedback from the other two business companies groups) in the project’s outcomes without contributions. However, they are more or less aligned with the other two business groups in their interest to monitor the proposition’s improvements for potential future adoption.

Other engaged stakeholders contacted and engaged according to the identified and adopted methodology (reported in section 4 of this document) are: business and financial advisors, policy

makers and authorities, etc. Overall, they all express an interest in the project's activities and the final proposition, especially all the contacted stakeholders groups recognize that the project is of paramount interest in terms of CO2 emissions reduction.

2. Introduction

The objective of Task 4.3 is to map interested and interesting stakeholders groups for the project for a subsequent market analysis that will be necessary to develop business models and design a communication-exploitation strategy.

These stakeholders groups will also be mapped by the project partners in their countries in order to have an accurate view of the market.

A series of online and face-to-face sessions were organised with stakeholders to understand the evolving business context, focusing on saving energy for their company or experience.

The sessions included key stakeholders (industrial agricultural producers, research centres, farmers, chambers of commerce, trade unions, agricultural extension services, etc.) and helped to identify the barriers and opportunities that currently exist in the market. As a result of this task, it was internal inventory of the stakeholders groups, which helped develop an efficient business plan to enhance our strengths and enabled us to look for opportunities. Working together with these selected stakeholders has also allowed us to eliminate any weaknesses or propose solutions for improvement.

Classifying stakeholders groups served as a strategic tool in order to identify the different stakeholders (industrial agricultural producers, research centers, farmers, chambers of commerce, trade unions, agricultural extension services, etc.) in particular to analyze their influence on the TheGreefa project as a whole.

The initial work carried out:

- Internet research and collaboration of consortium partners to define which stakeholders groups are most likely to have an impact on TheGreefa.

After this initial research we have:

- Designed a strategy to involve defined stakeholders in the different phases of TheGreefa.

In the first phase we presented the TheGreefa project to stakeholders to be able to analyze the different influences they could have on the results of our project. This analysis was carried out both by videoconference and in person.

During the duration of the project, some working sessions were hosted in order to promote TheGreefa among the stakeholders community. These working sessions focused on heating and cooling systems for greenhouses and/or other suitable building markets. These meetings were organised within the countries of the project partners.

By mixing the different stakeholders groups we had a broader view of the needs of farmers, agribusiness, agri-food unions, agricultural extension services and public administration bodies.

3. Objective

The mission of the TheGreefa project is to **provide an efficient and environmentally friendly solution to farms/farmers/horticultural producers who have seen their energy bill increase by up to five times their cost compared to last year. Their production requires humidity control, heating and cooling, and water recovery in greenhouses.**

The Greefa project is aimed at a new technology for heating, cooling, air humidity control and water recovery in greenhouses as well as for the drying of agricultural products using thermo-chemical conversion principles based on the use of saline solutions (thermochemical fluids).

The mapped stakeholders groups were used to achieve a **deep understanding of the market** and thus be able to target exploitation strategies and business models to offer TheGreefa technology to the market.

In addition, stakeholders engagement facilitated **linkages** and networking between partners and **external stakeholders**, potential **end-users**, other relevant projects and **networks** for the final exploitation of project results, the definition of a prospective marketing strategy, business and service model, identification of potential improvements and further developments, exchange of external knowledge, involvement in existing agricultural and energy networks and industrial partnerships in the construction sector.

Through the involvement of stakeholders groups, the different approaches, needs and requirements of the different groups will be summarized to be able to analyze their insights on TheGreefa and achieve their commitment to **ensure their support**. The planned actions will contribute to being (as shown in Figure 1):



Figure 1 - Plan stakeholders engagement actions

The activity was carried out in two phases.

In the **first phase**, through web search, participation in events, among the partners, After identifying the main stakeholders groups, stakeholders interviews were held and the project was presented for a first approach. In addition to this, the degree of interest in the project for each type of stakeholders was analyzed and hierarchical.

The **second phase** is through the provision of technical and economic information to the selected stakeholders in order to obtain a real degree of interest in the project and to be able to map a detailed analysis of the influences of any interested parties.

To capture a complete representation of the industry and be able to obtain relevant outputs to leverage the results, we performed:

A **methodology** used to map the different stakeholders groups

A **Classification** and Stakeholders Groups Engagement for TheGreefa

A **summary** of the results of the meeting obtained for the project.

4. Methodology

In order to make an adequate classification of stakeholders who are interesting for the project, we have compiled several classifications taking into account internal and external stakeholders (González, 2001) and primary and secondary stakeholders based on their relationship to the project and their ability to represent themselves. (Freeman, 1984, 2010).

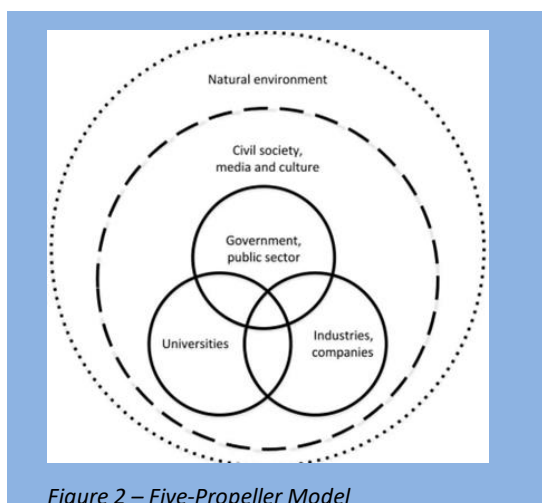
These two groups are:

- Primary stakeholders, which means that they should be, for example, farmers or greenhouse agri-food industries.
- Secondary stakeholders (intermediaries) should include public authorities, consumers, packaging and fertiliser suppliers.

To know the right suitability to choose the main stakeholders to be included in the process, we asked ourselves how their influence or support will be relevant to TheGreefa.

During the stakeholders analysis, the links between the different stakeholders and their link to the project itself were taken into account. Treatment for each selected group deferred so as to maintain their interest.

Key stakeholders had a simpler approach to the project and at the same time requested information on the progress of the project, this continuous feedback helped to increase their confidence. Some stakeholders were easily identifiable (due to their background, relationship with greenhouses, location...), while others were more diversified (trade unions, intermediaries...). Other stakeholders are more "undefined" (e.g., "the local area") and we have defined the most correct way on how to structure and maintain a relationship with them.



But given the extreme importance of the environmental issue in the TheGreefa project, a **five-propeller model** was added (figure 2) in which the natural environment becomes the engine and motivation for collaboration.

The stakeholders analysis helped us to find the levers of the project and to maximize the impact of TheGreefa based on two important factors: the level of influence of the participant and their interest. The stakeholders analytics map helped us determine which stakeholders have a greater or lesser impact on TheGreefa and also measure their interest. In this way, we were able to engage with every stakeholder in the project in a way that best benefits both of us. Since there were different types of interests depending on each group, it was imperative to classify the different types of stakeholders according to their roles and weight, in this sense we classified stakeholders as shown below in Figure 3:



Figure 3 – Classify stakeholders.

In order to establish the right strategy with all the different stakeholders, the evaluation criteria we followed to select them were based on a diagnosis for the development and commercialization of the project (as shown in figure 4):

PERCEIVED POWER: when stakeholders can impose their will on the project/outcomes.

LEGITIMACY: The stakeholders group reflects prevailing views and beliefs

URGENCY: Necessity and sensitivity for a result

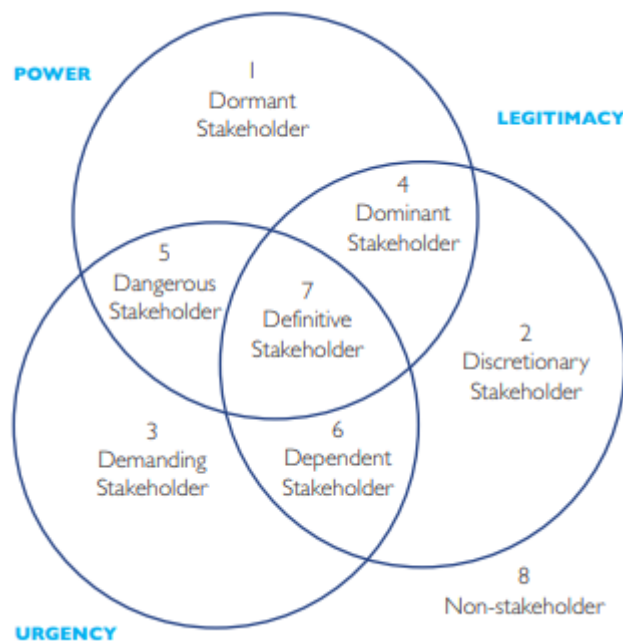


Figure 4. Source: Michell, R.K. Agle, BR, Wood DJ (1997) "Towards a Stakeholder Identification and Saliency Theory That Defines the Principle of Who and What Really Matters"

4.1. Identify stakeholders

Within the project consortium we proceeded to identify different types of stakeholders relevant to TheGreefa's objectives. Answering some of these questions, we have included and divided into different groups depending on their influence and relevance:

Who enables or acts as a barrier?

Policy makers, governments, authorities, investors, agricultural financiers

Who is directly involved in the input and output of TheGreefa?

Farmers, horticultural producers, agro-industries, trade unions.

Who has a common interest in TheGreefa's results?

Competitors, suppliers, agro associations, public bodies.

4.2. Analyze stakeholders

By analyzing stakeholders, we were able to understand how relevant they are to TheGreefa, as well as what perspective they bring.

4.3. Mapping stakeholders

After the list of stakeholders and analysis, we plotted them according to the two axes (as shown in figure 5) with the y-axis measuring the level of interest (bottom) and high (top). On the x-axis, map the power level, from low (left) to high (right).

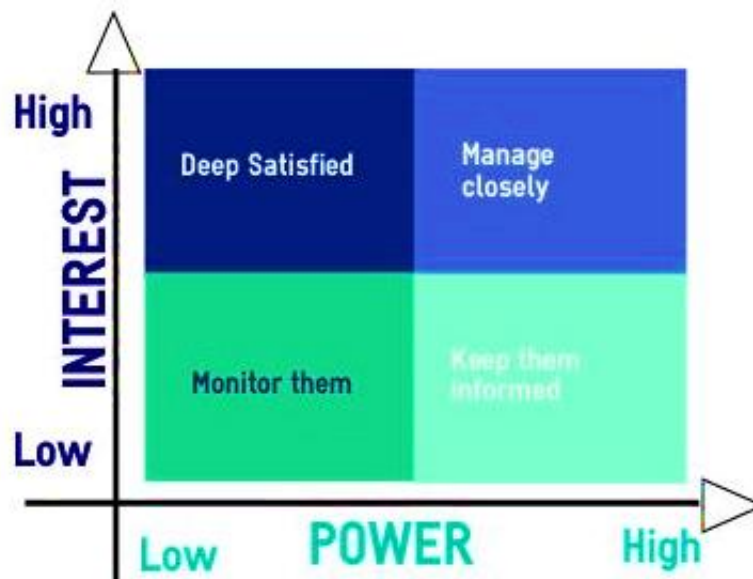
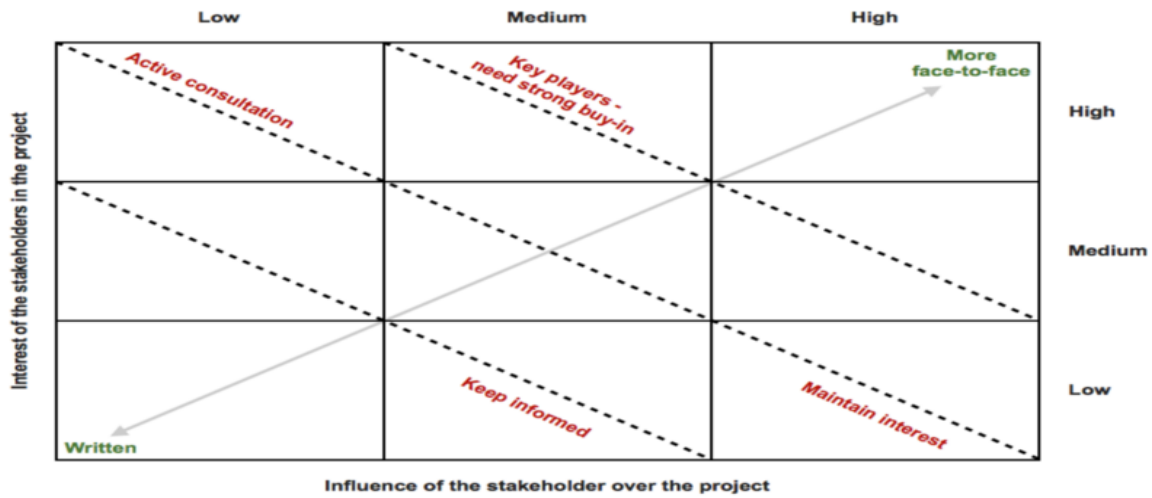


Figure 5 – Stakeholders-level analysis

4.4. Prioritize stakeholders

Depending on where they land on the previous map, we interacted with them in different ways, keeping them informed, monitoring them, and involving them in certain phases of the project (as shown in figure 6).



Figure

Figure 6. Source: DTU. Dip. Management Engineering. Project Laboratory

It was crucial that stakeholders were included in TheGreefa from the outset. In addition, it was important that the list of stakeholders includes those who have a strong likelihood of engaging and taking part in TheGreefa's activities.

To achieve the goal of this task, at TheGreefa we have divided the work into 2 parts and 5 tasks, as follows (Figure 7):

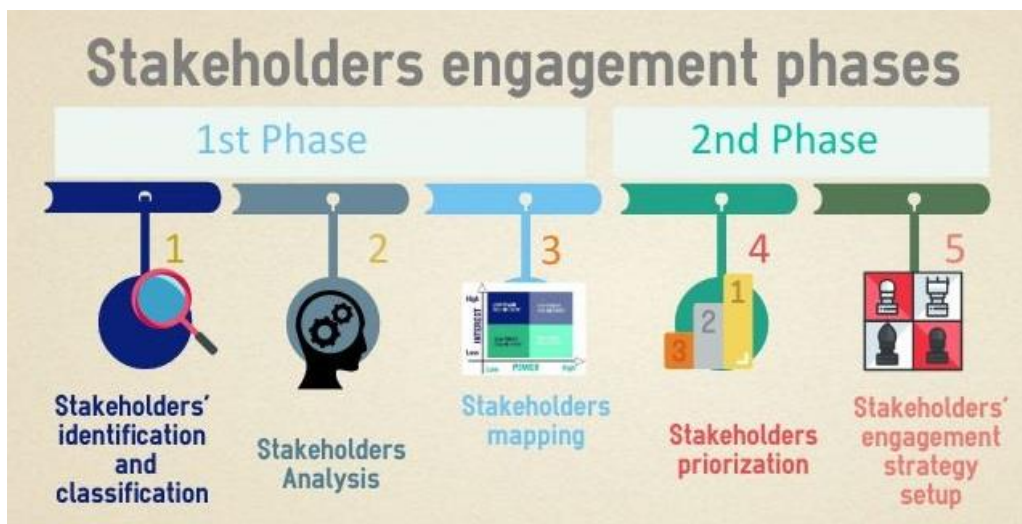


Figure 7 Stages of Stakeholders Engagement at THEGREEFA

5. Classification of stakeholders groups

Identifying stakeholders for engagement, led to identifying and evaluating stakeholders, planning communication and engagement.

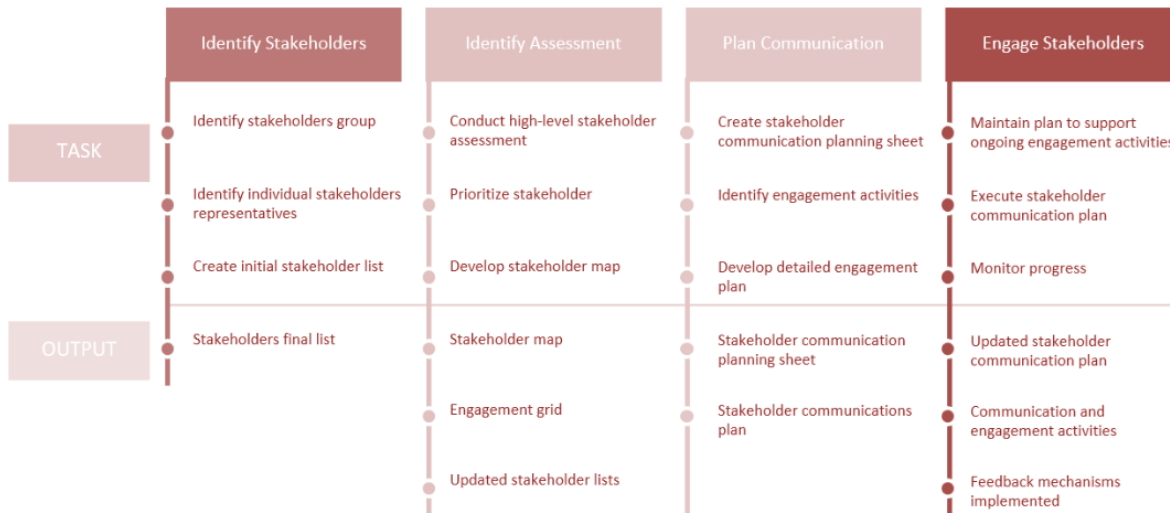


Table 1 Tasks to be carried out to engage stakeholders and expected results.

5.1. Identification and classification of relevant stakeholders

Identifying stakeholders created the foundation for the engagement and flow needed for the communication channels needed to gain more interest and trust in the project.

Demonstrable evidence from initial partners consists of publishing groups that are known to influence and be influenced by the project. It was important to include in the list all the performers who could have an interest in the project without limitations, even if it is not known if they could be involved in TheGreefa. As meetings unfolded, interest, influence, and relevance emerged through their engagement in the process (as shown in Figure 8).



Figure 8 Stakeholders Interest/Influence

In the first phase, several stakeholders were identified and classified. Agricultural producers (e.g. greenhouse horticulture), industry with heating systems, academia and research on heating and drying systems, business and financial advisors (e.g. agricultural banks), policymakers and public authorities, public bodies and the general public were divided into six main stakeholders groups (e.g. farmers' organisations and NGOs). Each of the categories listed above has been further defined and organized. A complete list of stakeholder classifications can be seen in the next chapter.

5.2. The Greefa's stakeholders analysis

Different stakeholders groups are analysed according to the impact the project has on them and their business operations, as well as the influence they have on the project (Table 2)

TheGreefa Stakeholder Analysis													
Group 1			General Information						Commitment Level				
Stakeholder	Position	Email	Influence	Priority	SME?	Decision-Maker	Comm. Freq.	Comm. Method	C - Current Level		R - Required Level		Notes
									Against	Passive	Neutral	Help	
X			High	High	Yes	Yes	Weekly	In Person	C			R	
Y			Medium	Medium	Yes	No	Monthly	Email	C		R		
Z			Low	Low	No	No	Weekly	Phone	C	R			

Table 2. Stakeholders Analysis Working Document

Influence is defined as the power to direct the development of the project and the degree of coordination with other stakeholders. The standards used to measure stakeholders influence are shown in Table 3.

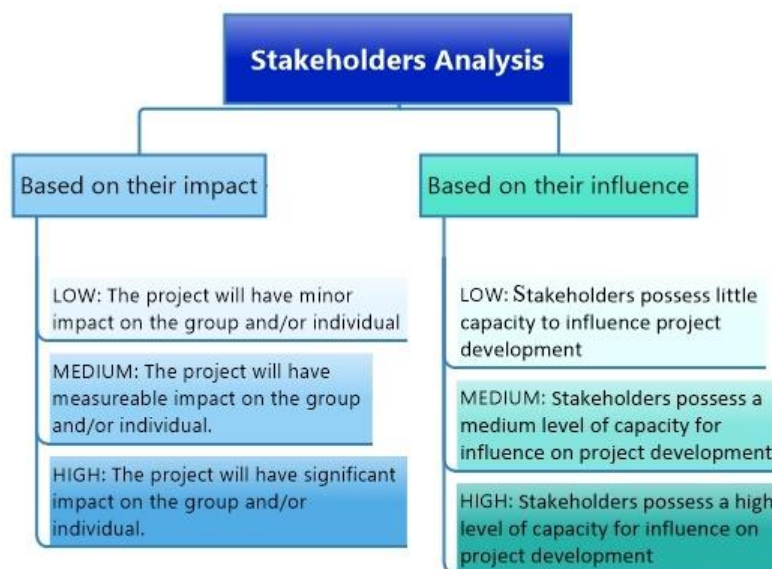


Table 3 Parameters for assigning the potential level of influence and impact of relevant stakeholders

An interested party's position on the grid illustrates the steps that the project management needs to take to engage in the project (see Table 4).





Different stakeholders/Different actions	
 <p>High Power Influential Interested KEEP THEM CLOSE</p> <p>This group are probably decisions makers and affect the undertaking a positive outcome. The Consortium should keep this group close and deal with their assumptions</p>	 <p>High Power Influential with low Interest KEEP THEM CAPTIVATE</p> <p>Despite the fact that these partners may not be keen on the result, they actually can have power can influence the task results. This group ought to be managed circumspectly since they could involve their power in a negative manner on the off chance that they are unsatisfied.</p>
 <p>Low Power Influential High Interest KEEP THEM INFORMED ABOUT THE PROJECT</p> <p>These partners should be regularly informed about the progress of the project. Communication is expected to guarantee that no significant issues are emerging. They could be a support and help to the project progress</p>	 <p>High Power Influential with low Interest MONITOR THEM WITHOUT EXERTING MUCH EFFORT</p> <p>These stakeholders ought to be constantly observed Consortium shouldn't invest significant time effort correspondence with them.</p>

Table 4 Parameters for assigning the potential level of influence and impact of relevant stakeholders

Depending on the importance that each of the stakeholders has brought to the project, values are assigned for their interest and power of influence and therefore the actions taken have been properly monitored (as shown in figure 9).

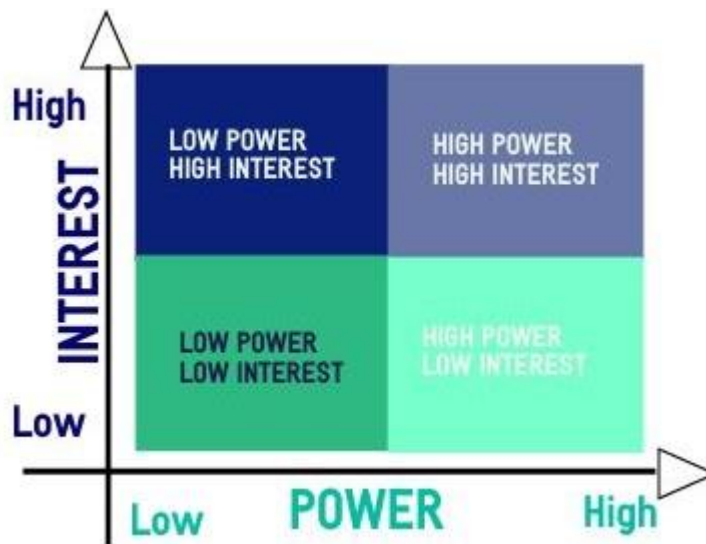


Figure 9 – Power/interest at stakeholders level

5.2. Stakeholders Group Analysis: Characterization and influence in TheGreefa

Stakeholders Group 1	Have high impact and influence on the project development and might be the potential users
Stakeholders Group 2	Have high impact and high-medium influence on project development and might be the potential users
Stakeholders Group 3	Academia and research centers that add influence on the project development.
Stakeholders Group 4	Have medium impact and influence on the project
Stakeholders Group 5	Have predominantly low impact while influence may vary from high to low.
Stakeholders Group 6	Have predominantly low impact while influence may vary from high to low.

Table 5 Stakeholders Group Analysis: Characterization and Influence in TheGreefa

5.3. How to prioritize stakeholders

Prioritization is based on high or low influence or stakeholders decisions. These values determine the communication actions that have been derived to the group. This list has been active throughout the duration of the project, and depending on their interactions with each of the stakeholders, their position has varied in the list. (as shown in Figure 10).

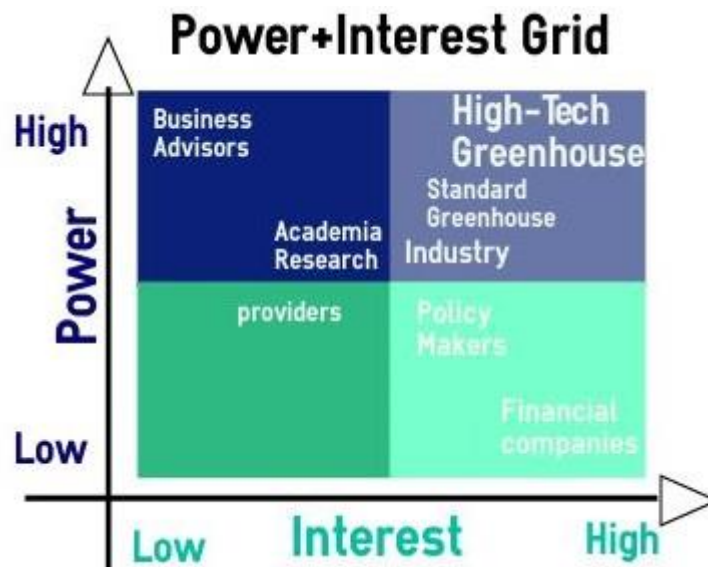


Figure 10 – Stakeholders power/interest level with stakeholders

The ultimate goal to achieve stakeholders engagement is to gain support and maximize opportunities and minimize barriers to the project. Therefore, it helped the project to learn more about the expectations and needs that TheGreefa is expected to cover. So, there are some general tips to consider to reflect on the process and results:

- Each stakeholder's engagement was different, as was their perception and interest in the project.
- There is no one-size-fits-all answer or approach.
- The impact of one cannot be considered without influencing the other.

Events	2020	2021	2022
Open Summit	december	december	
Food, Wine & Co. Food sustainability		october	
press tour Regione Toscana	june		
Expo 2020 Dubai			february
Maker Faire Rome	december	december	
Siena Food Lab		june	
Sit-Com divulgazione scientifica			
Premiazioni 40° Assoutenti			march
Life Sciences Job Day 2021		november	
FestivAlfuturo 2018 "Ri-generazioni - l'era dell'economia circolare"			
Expo consumatori 4.0		december	
Festival For The Earth			
Startup Weekend Food Sustainability Parma		october	
TECH IT EASY – Agritech			
Giornata Nazionale sulla Bioeconomia	september		
AgTech Forum			
Spark-la scintilla che accende i sogni		july	
AgriNNovation		november	april
TAVOLO GIOVANI #AGRIFOOD TECH			february
Verso l'agricoltura del futuro		april	
"WakeUP – Realizzare un'impresa non è un sogno",			
Villaggio Rousseau di Milano			
Smart Agriculture e nuove politiche territoriali	june		
SINNOVA 2019	october		
Forum Retail 2020	october		
Epale Milano			
Take a breath, make a move			
BUONO! Storie italiane di agricoltura		june	
The Festival for the Earth. Sustainable Visions in Art and Science			
Robotica, Agricoltura ed Ambiente'			may
Incontro Agricoltura Innovativa (Soroptimist)	september		
Towards The ECONOMY of FRANCESCO		october	
Bioeconomy day	september	may	
Didacta in fiera			may
AI e automazione. Nuovi fattori per il precision farming			may
Interferenze dal Futuro 2.0			may
Job-Day 2022			april
Agristartup			january
Beate Vivo Expo-Summit '22		november	
Bravo Innovation Hub		november	
Trusty - Var Group - IBM		november	
"Food, Ambiente e Sostenibilità: per sempre ecologici"		october	

Table 6 Events to identify TheGreefa's stakeholders

The list of stakeholders was defined after verifying, through several events, the interest of future stakeholders in energy, new technologies, agricultural innovation, greenhouses, in general, sustainable production, agro-industries and academic applications assessed as of high interest for heat recovery systems.

In addition to meeting stakeholders at events, other companies that already have relationships with the partners of the TheGreefa consortium were reported, each partner provided the data of the companies in order to add them to the different stakeholders groups and thus be able to share the information of the project and receive their feedback.

5.4. Creation of the different stakeholders groups

As a result of the research carried out, the six stakeholders groups were established as follows:

(i) greenhouse, (ii) industries that need to dry heating processes, (iii) universities and research, (iv) business and financial consultants, (v) policymakers and public authorities, and (vi) public bodies and the general public.

By establishing these different stakeholders groups we were able to have a better assessment of their interests. The segmentation of the different stakeholders should uncover the biggest potential avenues that could emerge from TheGreefa's results on the market thanks to the project.

To be able to achieve this, we tried to probe all potential partners who could be influenced or who could influence the THEGREEFA project. Stakeholders segmentation groups provide a significant level of understanding that further helps to grasp their engagement.

Particular attention was paid to those stakeholders who showed interest in the solution proposed by TheGreefa, therefore targeted communications and meetings were held to ensure their positive feedback.

In the first period, after meetings and interviews with stakeholders who have a high interest in the TheGreefa project, more detailed information was requested that will be shared later during the project.

At this moment in history, we are facing a sharp increase in energy costs. It is essential to precisely define the economic benefits, emission reductions and investments for this technology in order to make it more attractive for greenhouses and large plants where it could be applied.

In the second phase, we had more precise information about the results of the project. Communication with TheGreefa's stakeholders actively involved in the project thanks to the news on our web page, meetings held during fairs and specific meetings. These highly interested stakeholders have been regularly contacted and taken into account to improve TheGreefa's results.

Despite the large number of potential users, as many greenhouses have heating systems with fossil fuels. Greefa technology was considered very interesting to reduce production costs and to make an environmental contribution to the emissions of the companies involved.

Stakeholders groups identified in Table 7. The classification of stakeholders groups was made according to their different interests and the influence they have in their sphere.

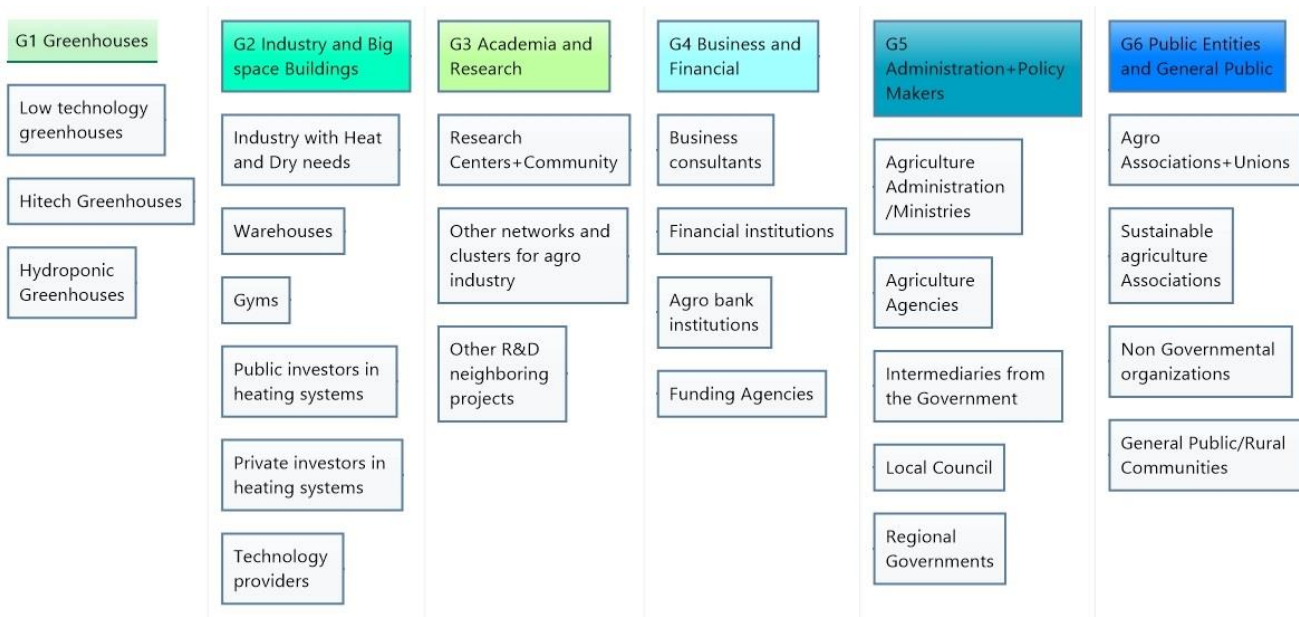


Table 7. The stakeholders groups of the TheGreefa project.

Contacts made by each group

For each stakeholders group, below is the number of companies contacted and highlights those from which we have received feedback on the project.

A continuously updated summary file will be strategic, in order to define the strategies to be implemented for the dissemination of the project and also to modify it in order to make it commercial and really usable for end users.

STAKEHOLDERS GROUP 1 (G1) - Greenhouses

Number of participants: 36

Stakeholders contacted: 15

Average Rating: High

Location:

- 17 Italy
- 6 Switzerland
- 1 La Germania
- 5 Tunisia
- 4 Spain
- 3 France

STAKEHOLDERS GROUP 2 (G2) - Industrial buildings and other large spaces

Number of participants: 20

Stakeholders contacted: 12

Average Rating: High

Location:

- 14 Italy
- 3 Spain
- 3 France

STAKEHOLDERS GROUP 3 (G3) - Academia and Research

Number of participants: 25

Stakeholders contacted: 12

Average rating: Average

Location:

- 12 Italy
- 13 Spain

STAKEHOLDERS GROUP 4 (G4) - business and financial advisors

Number of participants: 58

Stakeholders contacted: 45

Average rating: Average

Location:

- 51 Italy
- 7 Spain

STAKEHOLDERS GROUP 5 (G5) - Policy Makers and Authorities

Interested parties: 22

Stakeholders contacted: 15

Average rating: Average

Location:

- 11 Italy
- 5 Tunisia
- 6 Spain

STAKEHOLDERS GROUP 6 (G6) - Policy makers and authorities

Number of participants: 14

Stakeholders contacted: 10

Average rating: Average

Location:

- 10 Italy
- 4 Spain

The feedback received during the interviews and meetings was defined for each category and we determined the axis of power and/or interest based on the power and interests of each stakeholder.

The stakeholders groups identified for the THEGREEFA project, the companies contacted and for which we have received feedback on the project are highlighted.

All the information that emerged from the interviews and the meeting is categorized and shown for each stakeholder, the type of company, the size, the type of relationship with the partner, the opportunities, the suggested actions to be carried out and the degree of interest and impact on the project.

In the first phase, the power of each stakeholder was defined as it helped to manage and control their impact on the project. As well as their influence on other stakeholders.

Once interviews with each stakeholder were done, we proceeded to categorize them to gain a global view of their power/interest/influence (as shown in figure 11).

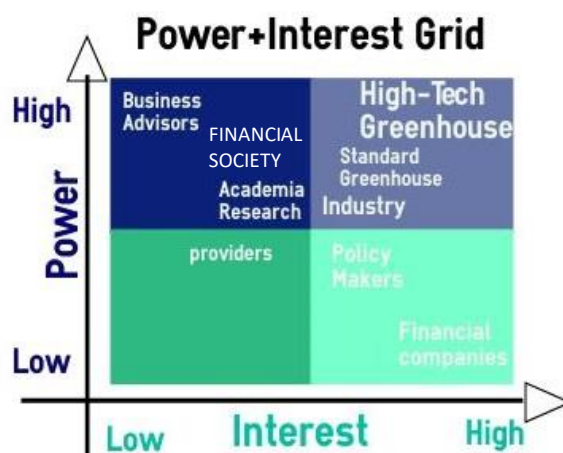
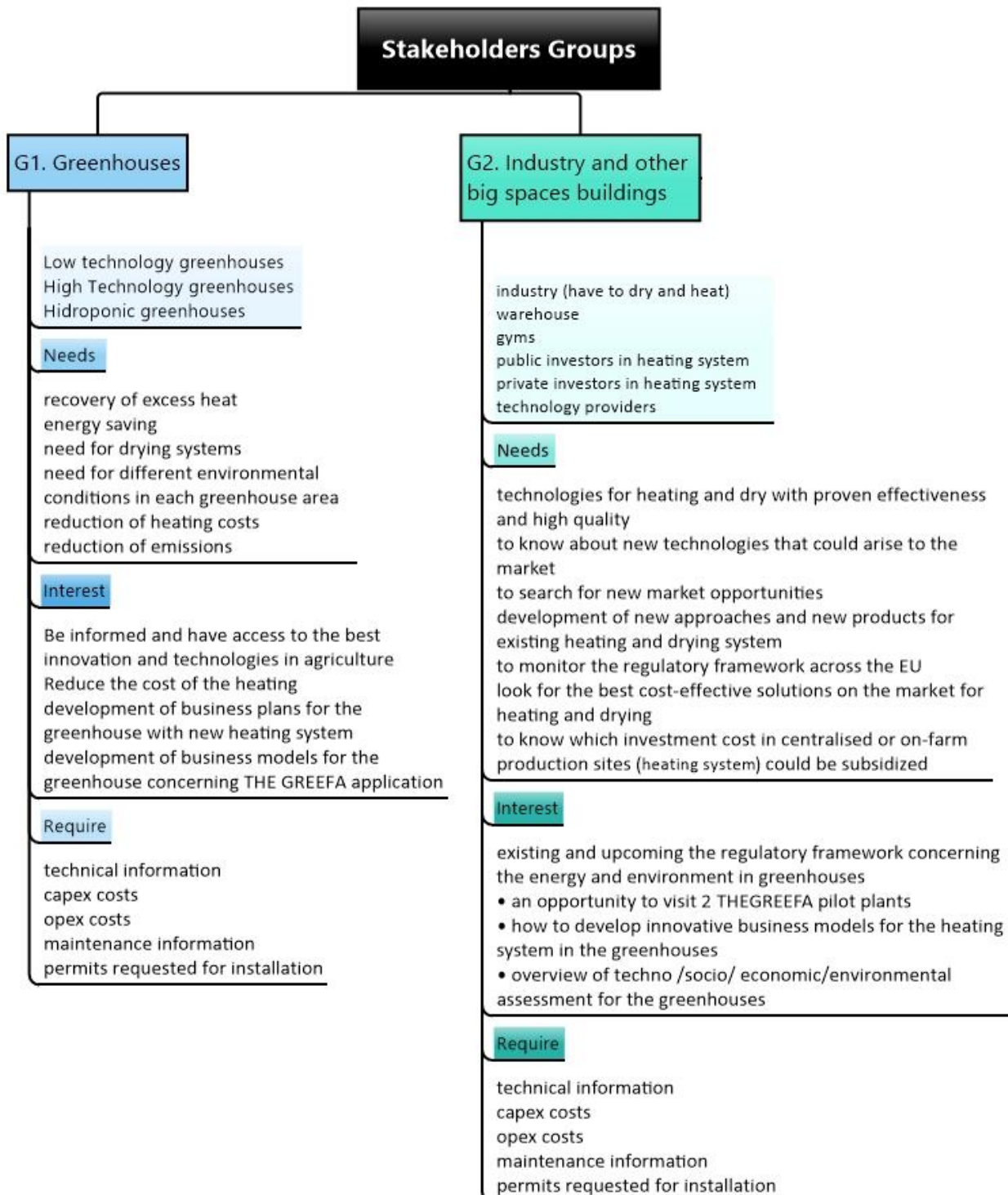
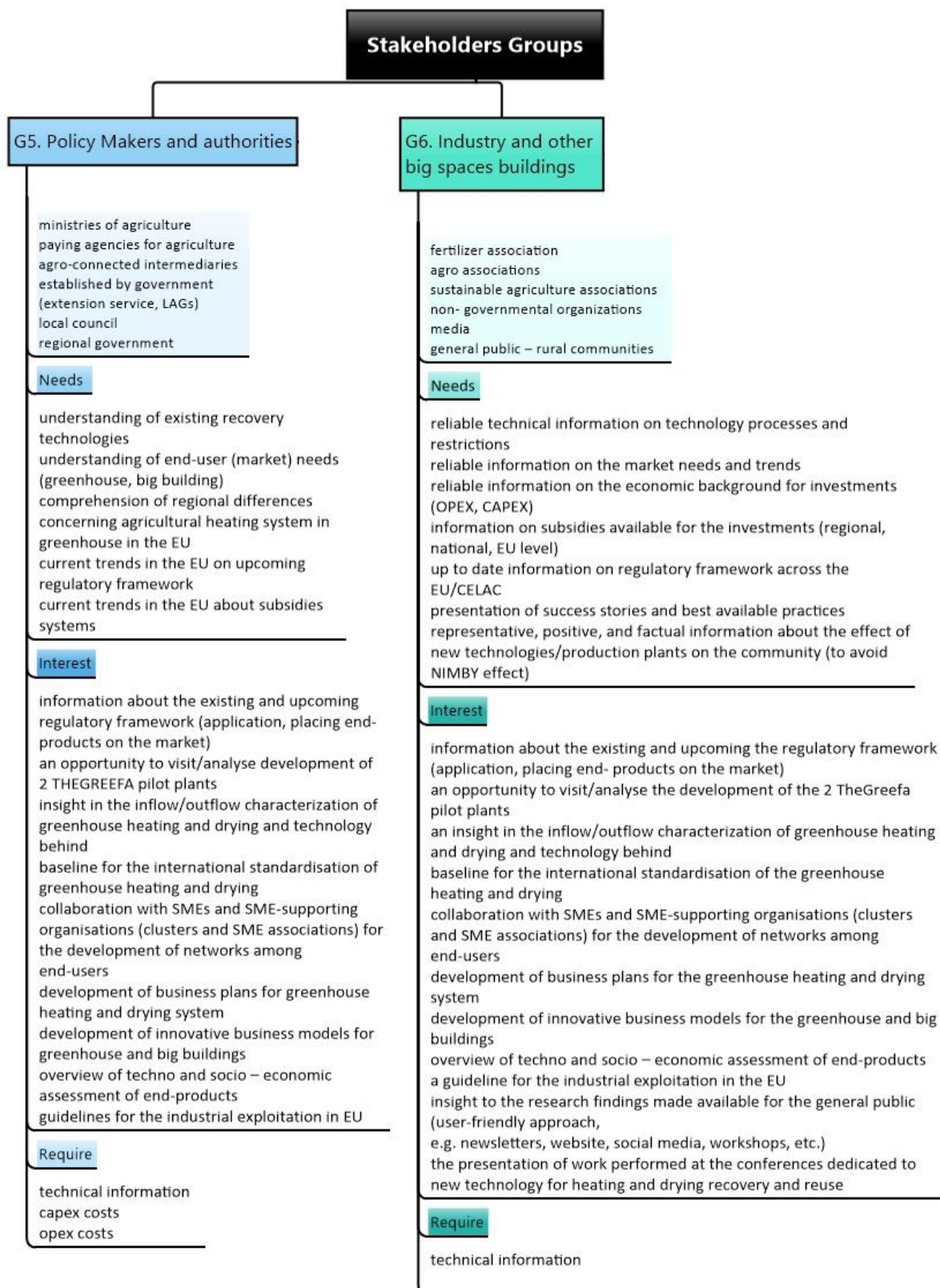


Figure 11 – Power/interest/influence at stakeholders level

5.5. Stakeholders Needs/Demands Analysis Classified







6. Monitoring

The activity carried out during the project led to the incorporation of the results and the analysis of them within the different contexts of the project to understand their needs and the impact that their commitment will have on the project. The goal with the involvement of stakeholders was to work on the current and future management of the results to add to them or be aware of them in the implementation of the project.

To ensure the proper management of the stakeholders group relationship and the feedback that emerged from the meetings, a summary memo of the meetings was drawn up to better track and interact with the rest of the stakeholders involved.

In the first phase of the project, we identified the stakeholders, defined which ones can give greater importance to the development of the project and defined the requests that each stakeholders group requested to better analyze the project and provide ideas for improvement and to lower it to the real needs of its companies or partners.

In particular, in the second phase it was necessary to provide the following information more accurately on:

- Technical Information
- Capex Costs
- OPEX Costs
- Maintenance Information
- Permits required for installation.

In addition, based on the different feedback during the duration of the project, some of the initial planning actions were deepened by providing more specific insights, such as:

- Review the plan and re-evaluate the effectiveness of the messages sent to stakeholders.
- Type of stakeholder and target audience to reach.
- The suitability of the experts who convey the message.
- The chosen communication channels and the planned next steps.

In line with this, the WP4 leader organised quarterly sessions with dedicated consortium partners regarding the update of the priority list.

The engagement processes showed that each individual had different attitudes, certainties and experiences.

While connecting with them, it was essential to address any limitations or information gaps.

To overcome this problem, we have considered that:

- **there is no common knowledge** : each person has a different degree of understanding,
- give everyone enough time to be able to understand the project thoroughly,
- ensure that stakeholders receive sufficient information on the progress of the project.

Stakeholders engagement ended with an awareness of the positive disposition of highly engaged stakeholders towards positive feedback for researchers and allowed to find the critical benefits or limitations for a successful implementation of TheGreefa.

7. Information and communication

The information provided by Greefa to stakeholders was easy to understand (science for all) and aligned with stakeholders profiles in order to create a well-informed stakeholder mass.

In particular, technical information related to capex/opex costs, maintenance information and permits required for installation had to be provided more accurately and thoroughly.

Since many of the people interviewed are not specialized technicians in the thermochemical sector, it was necessary to clearly disseminate the information that had to be based on verified facts and figures. The arguments used had to be technical, credible, representative, positive and coherent. This allowed us to remove the barriers, being clear and using unscientific language.

7.1. Stakeholders Mapping

Some influential contacts for the project have been distinguished and will be collected in the dataset, which was used during the meetings of the business stakeholders group.

175 partners were identified, among them we highlighted that the gatherings that have brought the greatest advancement/improvement/consultant to TheGreefa are G1 and G2.

During the meetings and interviews, a bottom-up examination of the project's results was presented to gain some insights on the most effective method of creating and commercialising innovation.

7.2. Communication to stakeholders and their relationship with consortium partners

How communication with stakeholders was managed.

- All data related to the TheGreefa project are presented in a **simple way**. The data has participated in a legitimate, genuine, and simple-to-understand design, the near certainty is that stakeholders will require the investment to understand our goals, understand their role, and what it might mean for them.
- Maintaining an open and inquisitive disposition will help TheGreefa understand the set of experiences and concerns of all stakeholders. This open and inquisitive attitude will help the two sides to break down the barricades, while simultaneously regulating values and interests.
- Keep an eye on the relationship between stakeholders and their interchanges to ensure that no misunderstandings can arise.

The **THEGREEFA project's communication strategy** to engage key stakeholders groups was based on the answers provided below:

	Action	Reason behind it
What	What are the issues to be discussed and what are the objectives to be achieved?	Negative, Neutral, Positive
BECAUSE	Why should this topic be addressed within this group?	Prevention, reaction, general announcement
WHO	Who is responsible for communicating with each stakeholders group?	WP Leader, Project Coordinator, Consortium Dissemination Experts
WHAT	How will communication with each stakeholders group take place? How can you Are stakeholders responding/reacting?	Workshops and/or round tables, paper or web forms, video communication and so on.
WHEN	When will the communication take place?	Set a regular time frame

Before engaging with key stakeholders groups, it was important to review their general profiles and explore their needs and interests. These actions were found to be useful for project partners to understand the background, expectations, motivations, beliefs and ultimate goals of stakeholders within TheGreefa.

Stakeholders mapping was done at the beginning of the activity and was a key to defining which stakeholders are the most interesting to engage on. Visualization helps to detect and fully understand the often complex interaction of problems and relationships.

The analysis was carried out by researching possible stakeholders to contact and meet.

During the first phase, "Defining the best stakeholders for the project", we participated in the events listed in Table 6. This allowed us to draw up a list of stakeholders and to divide them into macro-categories and for each category to define the degree of interest and the potential for involvement in the project.

During the second phase, we deepened the connections with the stakeholders for the project, understanding the potential and analyzing the weaknesses of the project to understand how to improve it and understand what are the real needs of the companies and institutions that could become the future users of The Greefa system.

8. Final Remarks

This document updated to the previous deliverable D4.5. wants to highlight the final considerations of the path taken for stakeholders engagement for future marketability.

Working with stakeholders ensures a successful dissemination of the project and allows for better implementation for TheGreefa. In this way, stakeholders analysis became an iterative cycle that went on throughout the duration of the project. The Greefa Consortium has worked together and involved various and different stakeholders and the results obtained have allowed a better understanding of the real needs that will allow us to obtain a better market-focused solution in the energy needs of greenhouses.

By classifying stakeholders into different influence/power and interest groups, it becomes clear where the stress is focused, and this shows how decisive the interaction of the different stakeholders groups has been.

The stakeholders analysis was carried out by evaluating the stakeholders through a preliminary research on the scope of their interests in the field of agro-industry, agriculture, greenhouses, energy efficiency issues, new technologies applied in agriculture, eco-sustainable production. With all this data collected, 6 stakeholders groups have been created, which are:

(1) greenhouses, (2) industry and other large space buildings, (3) universities and research, (4) business and financial advisors, (5) policymakers and public authorities, and (6) public bodies and the general public.

Each of the mentioned categories has been further elaborated and classified.

Stakeholders Group 1 - Existing greenhouse company (hydroponics, high-level and low-level technology).

Stakeholders group 2 - Industry and other large spaces building chemical industry, building where heating and drying is needed, warehouse, large company, office, gymnasium.

Stakeholders Group 3 - Academia and Research involves EU research centres, networks and thematic clusters, neighbouring EU R&D projects and alternative heating and drying recovery communities.

Stakeholders group 4 – business and financial advisors includes business advisors and financial institutions.

Stakeholders Group 5 - Policy Makers and Authorities refers to ministries of agriculture, paying agencies for agriculture, agriculture-related intermediaries set up by the government, as well as local councils and regional administrations.

Stakeholders group 6 – public bodies and the general public includes several associations, media and the public.

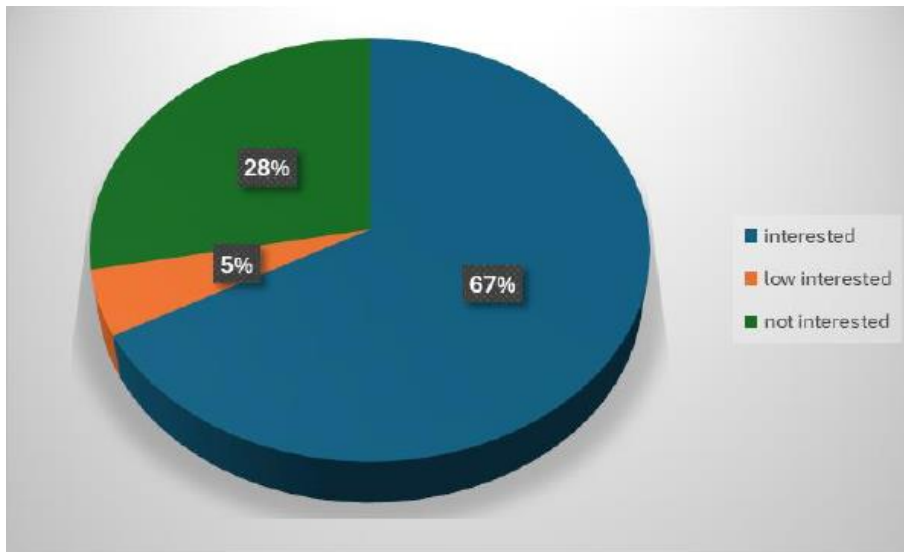
Stakeholders engagement and continuous evaluation of the process helped researchers identify the most important attitudes, as well as the benefits and potential barriers that are crucial for the development and further progress of the TheGreefa project.

During the stakeholders engagement for future marketability process we assessed and analyzed the degree of interest in the project and collected information to define future project applications.

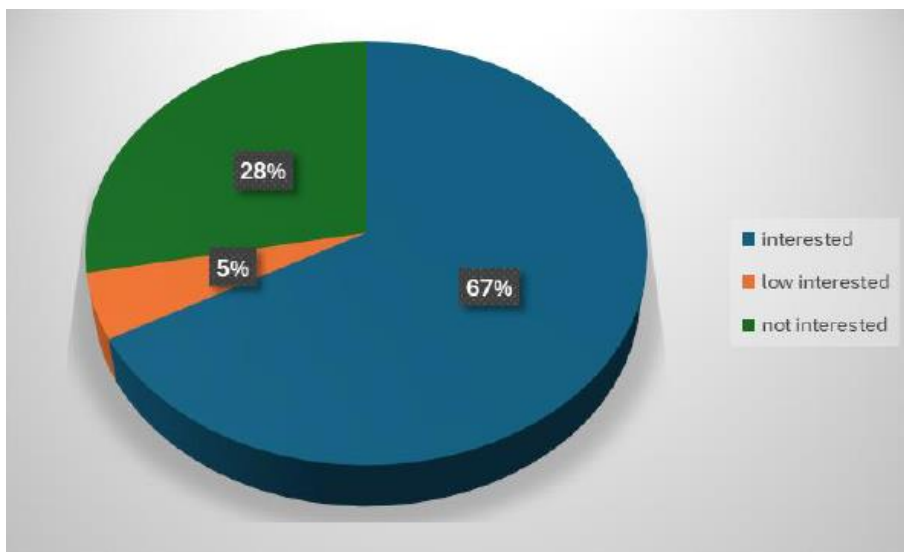
Following the meetings held at companies, during trade fairs and following dedicated webinars, we found a strong degree of interest in the project, which is of strong interest for the companies and entities involved both for economic and ethical reasons.

For each stakeholders group we first summarized the degree of interest in the project.

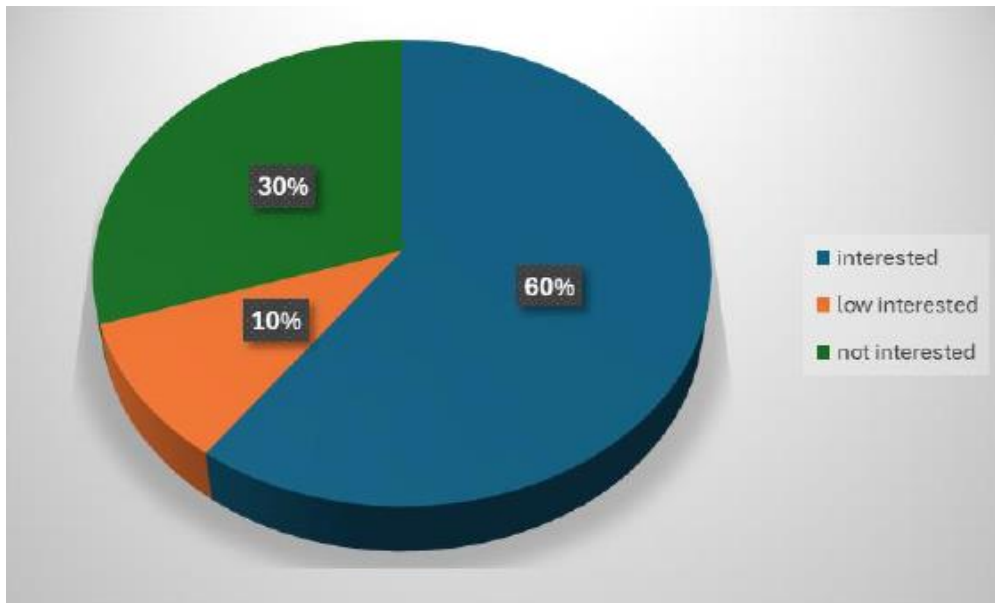
Stakeholders Group 1 - Existing greenhouse company (hydroponics, high-level and low-level technology).



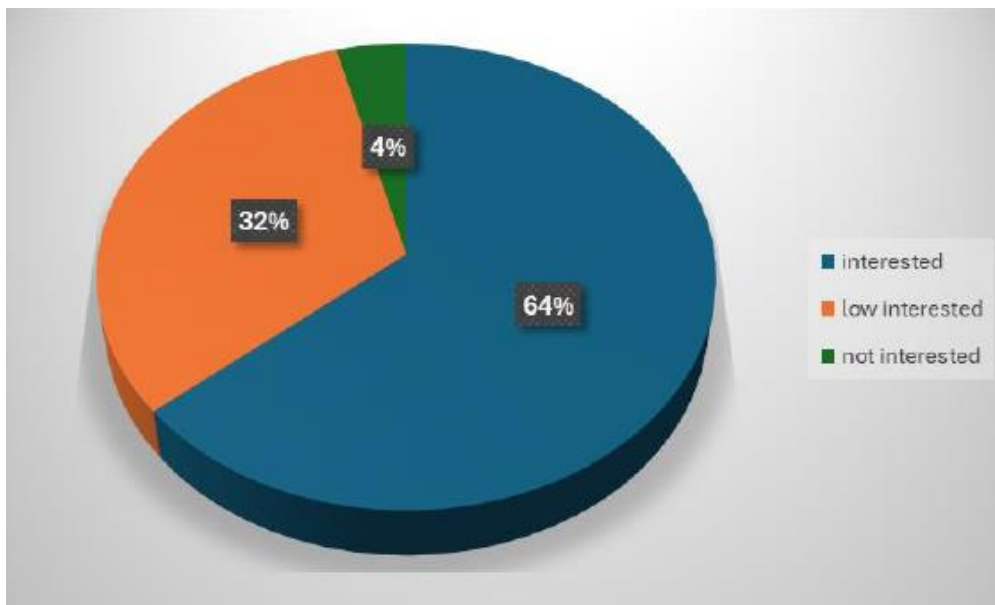
Stakeholders group 2 - Industry and other large spaces building chemical industry, building where heating and drying is needed, warehouse, large company, office, gymnasium.



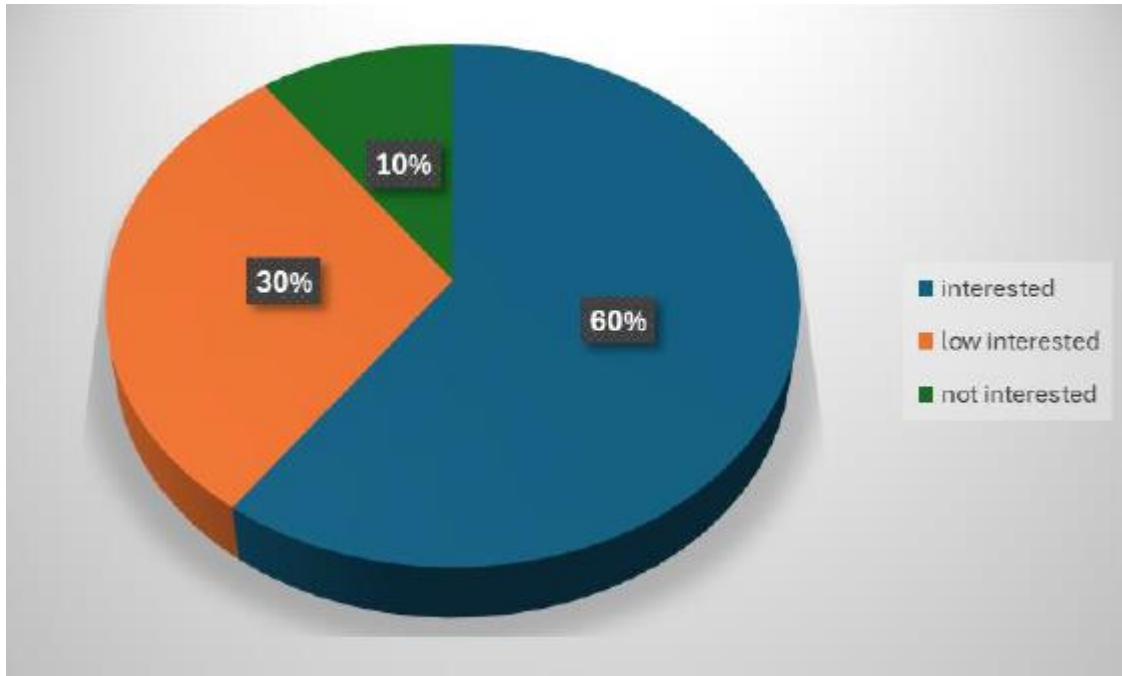
Stakeholders Group 3 - Academia and Research involves EU research centres, networks and thematic clusters, neighbouring EU R&D projects and alternative heating and drying recovery communities.



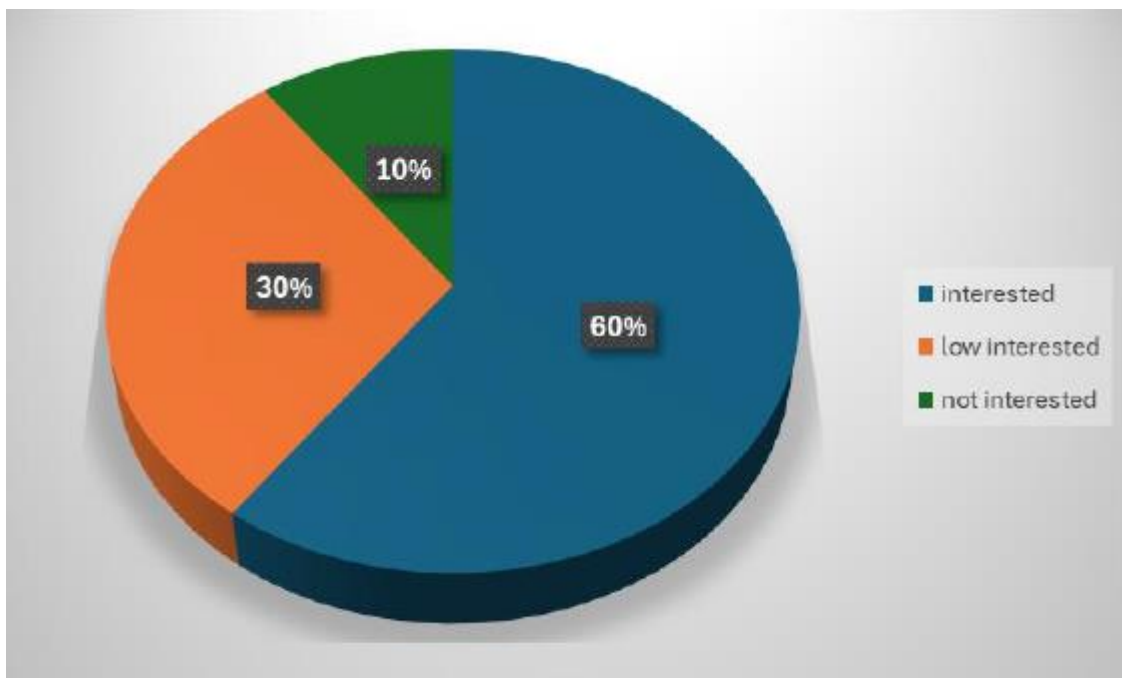
Stakeholders group 4 – business and financial advisors includes business advisors and financial institutions.



Stakeholders Group 5 - Policy Makers and Authorities refers to ministries of agriculture, paying agencies for agriculture, agriculture-related intermediaries set up by the government, as well as local councils and regional administrations.



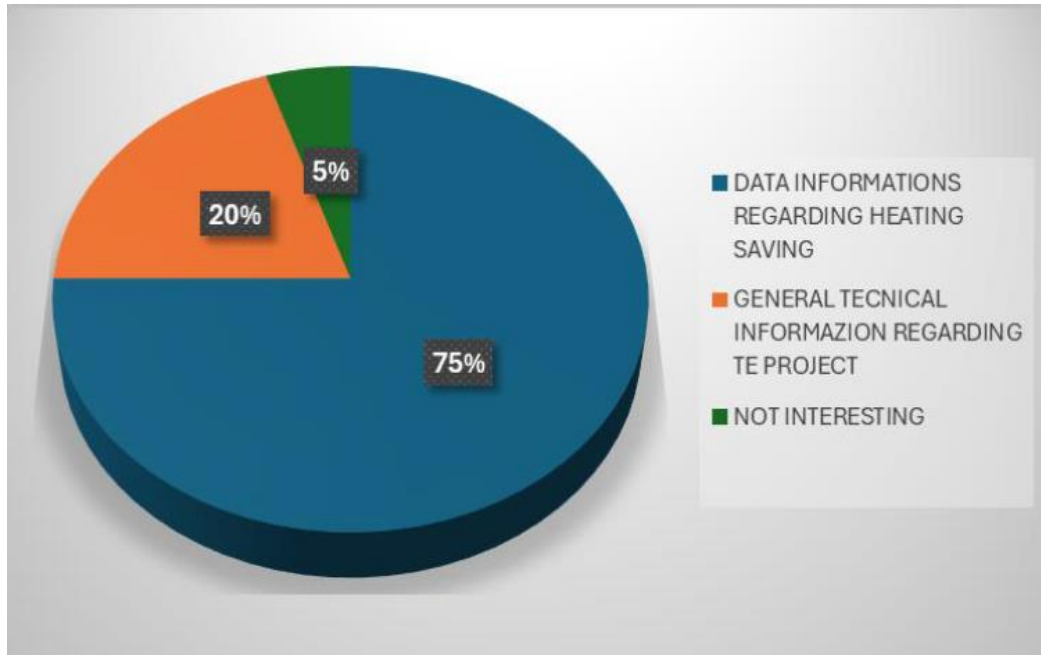
Stakeholders group 6 – public bodies and the general public includes several associations, media and the public.



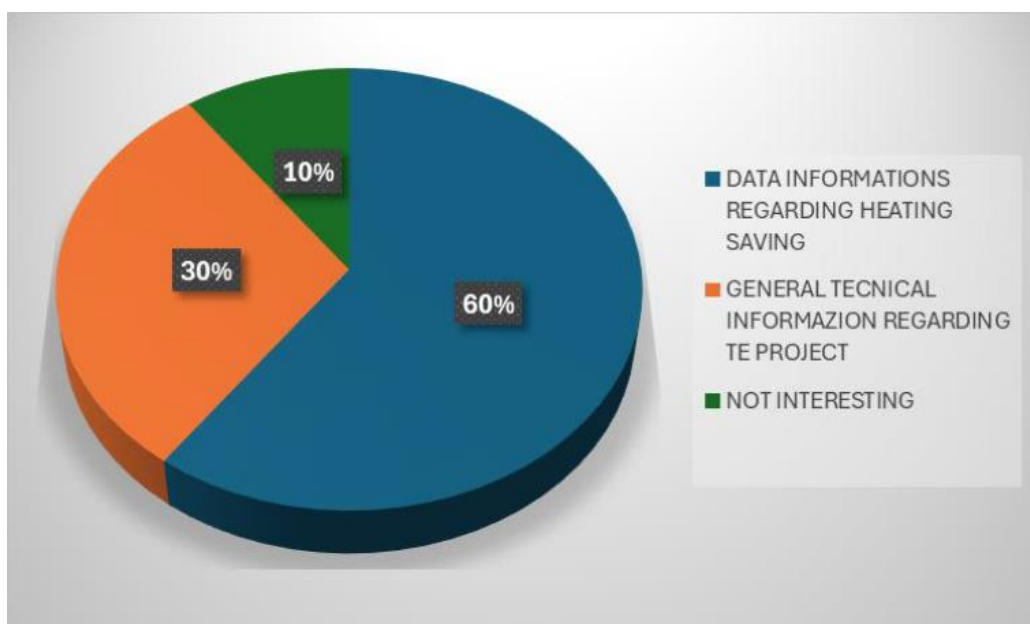
The groups of stakeholders involved highlighted 2 main requests for further information and indications and needs regarding 2 macro themes:

- data information regarding heating saving,
- general technical information regarding the project

Stakeholders group 1-2-3



Stakeholders group 4-5-6



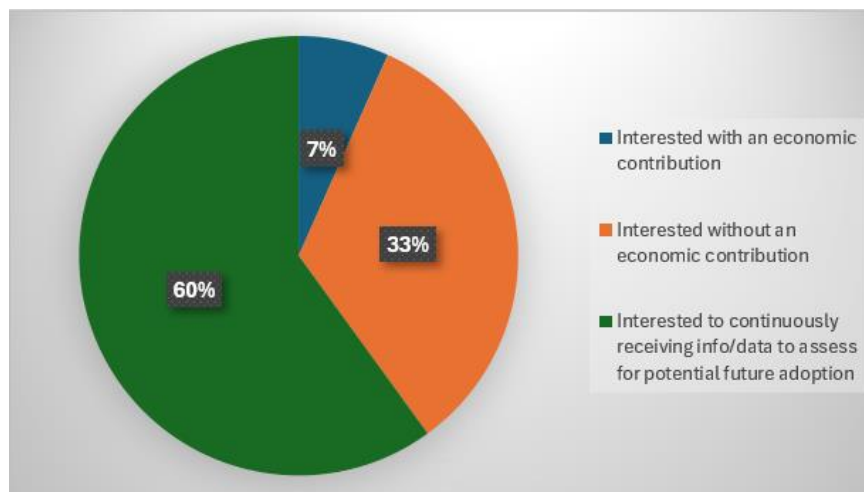
Stakeholders in the first three groups (Greenhouses, Industrial Buildings and Other Large Spaces, Academia and Research), who are more directly involved in the installation and maintenance of crops and related infrastructure (e.g., greenhouses), have also been presented with economic forecasting data prepared by the consortium.

The feedback received is summarized in an aggregated form, which includes the responses from stakeholders in the first three groups, as follows:

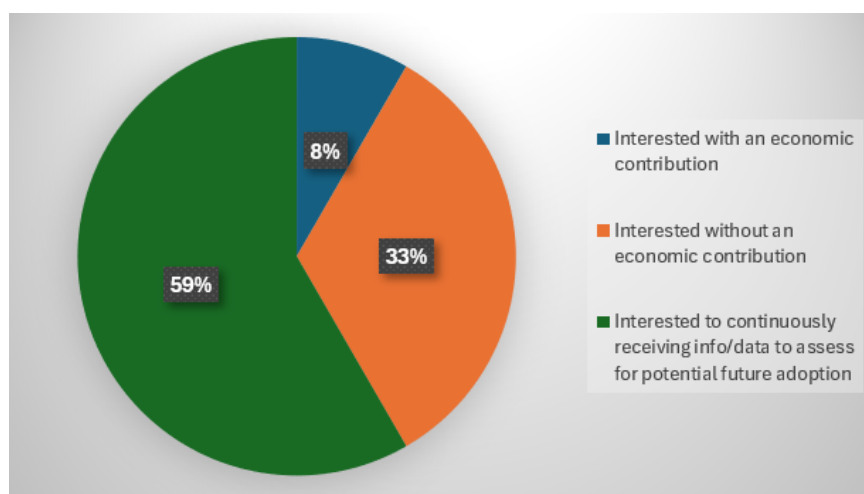
- 15% are interested in the project’s proposition with an economic contribution, namely they are ready to invest own money
- 17% are interested in the project’s proposition without an economic contribution, more specifically they need incentives and are not ready to invest own money
- 50% are interested to continuously receiving information and data to be assessed for potential future adoption

The breakdown of this percentages, per each group, is as follows:

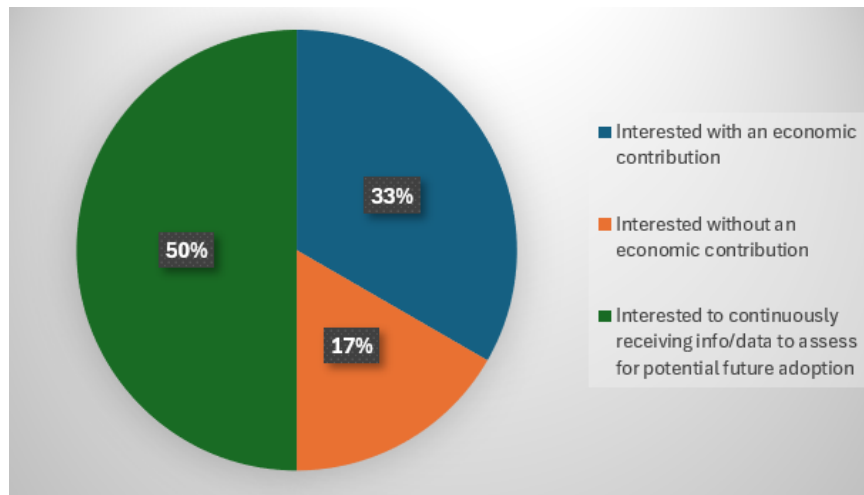
Stakeholders Group 1 – Greenhouses



Stakeholders Group 2 - Industrial Buildings and Other Large Spaces



Stakeholders Group 3 – Academia and research



The breakdown reported above shows that:

- The feedback from the engaged business companies (namely greenhouses and industrial buildings) is consistent. One-third are interested in the proposition even without contributions. The majority, however, express interest in being continuously updated on the project's progress for potential future adoption when the solution is more developed.
- Academia and Research demonstrate a lower interest (about half of the percentage compared to the feedback from the other two business companies groups) in the project's outcomes without contributions. However, they are more or less aligned with the other two business groups in their interest to monitor the proposition's improvements for potential future adoption.

Finally, it is worth outlining that all the engaged companies and academic bodies recognized that the project is of paramount interest in terms of CO2 emissions reduction.

9. References

Joachim Rosenlund, "Environmental research collaboration".

Doughty Center. Cranfield University, "Stakeholders Engagement: A Road Map to Meaningful Engagement"
<https://www.fundacionseres.org/lists/informes/attachments/1118/stakeholder%20engagement.pdf>

Javier+Oscar González Benito, "The Role of Stakeholders Pressure and Managerial Values in the Implementation of Environmental Logistics Practices". <https://www.tandfonline.com/doi/abs/10.1080/00207540500435199>

R. Edward Freeman, "Management for stakeholders. Survival, reputation and success".