



Stakeholder Engagement in Energy Efficiency: A Case Study of Greece's Clean Energy Transition

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Abstract: Effective decision support processes depend on robust stakeholder engagement, ensuring informed, equitable outcomes through collaborative dialogue and participatory governance. This paper presents a strategic approach to stakeholder engagement aimed at mobilizing energy efficiency investments, with a focus on Greece. Emphasizing inclusivity, structured dialogue, and tailored collaboration, the methodology identifies and prioritizes stakeholders across sectors such as finance, public authorities, technical services, and civil society. Findings reveal that public authorities (30%), financial institutions (24%), and technical providers (19%) are critical for driving energy efficiency initiatives, with 70% of stakeholders requiring high engagement. The study underscores the importance of aligning stakeholder roles with project goals to foster sustainable investments and meet the European Union's climate targets. Recommendations include participatory tools like roundtables and cross-country labs to enhance collaboration and disseminate best practices.

1. INTRODUCTION

Energy efficiency initiatives are considered pivotal for promoting sustainable economic growth, environmental protection, and energy security in view of Europe's clean energy transition. Lack of capital and the high associated costs related to energy efficiency projects are the main challenges that hinder such investments (Karakosta et al., 2021). Therefore, ensuring prompt access to financial resources is crucial when initiating such projects, overcoming challenges posed by high initial expenditures, and removing obstacles to progress toward established goals.

According to the European Commission, buildings in the EU are responsible for 40% of our energy consumption and 36% of greenhouse gas emissions. On 15 December 2021, the European Commission adopted a legislative proposal to revise the Energy Performance of Buildings Directive, as part of the so-called 'Fit for 55' package. A new European Climate Law (July 2021) enshrined both the 2030 and the 2050 targets into binding European law.

All new buildings should be zero-emission as of 2030; new buildings occupied or owned by public authorities should be zero-emission as of 2028. According to the new directive, member states will have to renovate 16% worst-performing non-residential buildings by 2030 and, by 2033, the worst-performing 26% through minimum energy performance requirements (EC, 2024).

Although requiring substantial initial costs, energy efficiency measures have the capacity to generate significant long-term financial returns. The reduction in energy consumption consequent to these

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projects results in notable decreases in utility expenses, which translate into savings that can surpass the initial outlay over time and serve as justification for such investment. Financing mechanisms play a crucial role as an essential link between front-end expenditures and subsequent cost-saving measures.

In the above context and with the energy transition underway, the question of how to engage communities as stakeholders in the decision-making process and address their needs through an equitable and just transition remains unresolved. An equitable transition includes the fair treatment and meaningful involvement of affected stakeholders (McCauley & Heffron, 2018). For the energy transition to also be a just transition, it must address who gets what, how processes drive the distributive principles behind “who gets what,” as well as who gets brought to the decision-making table, and how participatory governance structures influence who gets heard (Cha, 2020).

Identifying stakeholders’ influence on project outcomes, prioritizing their importance and managing their interests accordingly is an effective strategy for maximizing benefits (Karakosta et al., 2018). Quantifying the influence of stakeholders on the energy efficiency of housing allows for the development of an engagement plan that takes into consideration stakeholders’ diverse goals, needs, levels of expertise, knowledge, authority, connectivity and closeness to decision-making processes throughout the different stages of the renovation project (Karakosta et al., 2023; Zedan & Miller, 2018).

Stakeholder engagement is considered an important component of all decision support processes, while the involvement of key stakeholders is very useful to get an alternative perspective, and direct focus, but also, if needed, to shift the focus from related activities to intended results at an early stage (Karakosta & Fujiwara, 2020). Given the stakeholders’ critical role, stakeholders representing diverse target groups in the entire energy efficiency investments value chain (Loureiro et al., 2020), such as government entities, regional authorities, financial institutions, Energy Service Companies (ESCOs), homeownership associations, and industry and construction sectors should be brought together to mobilize investments in energy efficiency projects (Karakosta et al., 2021). In addition to these groups, consumer advocacy and citizen organizations could also contribute significantly towards this direction.

This paper aims to present a strategic approach towards stakeholder engagement that involves identifying diverse groups of stakeholders, while analyzing their interests before initiating meaningful collaboration around knowledge exchange. The scope is to facilitate stakeholders’ effective engagement, by ensuring organized, comprehensive stakeholder involvement through pragmatic methods, so as to maximize favorable outcomes for promoting energy efficiency projects and investments.

2. STAKEHOLDER ENGAGEMENT

A key aspect of the proposed methodology’s success lies in its strategic focus on stakeholder engagement. This approach is based on seven fundamental principles to promote a collaborative, inclusive and dynamic environment. These core considerations include an emphasis on inclusive participation, structured dialogue and collaboration, knowledge sharing and transparency, establishing feedback mechanisms to ensure ongoing communication between all parties involved and long-term commitment toward stakeholders’ needs (Karakosta et al., 2018).

Inclusive Participation: The approach is built upon a fundamental principle of inclusivity, whereby all stakeholders are accorded active participation. This encompasses government bodies, local

and regional authorities, financial institutions, Energy Service Companies (ESCOs), homeownership entities, industrial and construction sectors, Small-to-Medium Enterprises (SMEs), and consumer/citizen associations. The unique perspectives and expertise brought forth by each group constitute central inputs towards the comprehensive development plus implementation of energy efficiency strategies.

Dialogue and Collaboration: Emphasizing structured dialogue, this project places significant importance on consistent communication channels to facilitate the ongoing exchange of ideas, feedback, and best practices.

Knowledge Exchange: Stakeholders are strongly encouraged to utilize forums, such as working groups, and cross-country labs, to acquire and disseminate energy efficiency financing. Such collective exchange represents a crucial step towards addressing current energy-related challenges while cultivating a unified approach to energy efficiency not only within the EU but also beyond it.

Transparency and Accessibility: It is essential to ensure transparency throughout all process phases as it establishes trust and sustains continual participation. This involves the transparent formulation of objectives, methodologies, and consequences. It is also indispensable that information and resources are accessible to stakeholders from different backgrounds and proficiency levels so they can contribute effectively.

Feedback Mechanisms: Integrating efficient feedback channels enables stakeholders to express their viewpoints, concerns, and recommendations. The approach allows flexibility and potential for modifying its methodologies and tactics in response to stakeholder input and changes within the energy domain.

Focus on National Needs: Acknowledging the distinctive energy-related issues and prospects when dealing with various European areas, and countries, is imperative. Customizing strategies tailored to meet local and regional environments will amplify project efficacy and significance.

Long-Term Engagement: Ultimately, the approach relies upon cultivating enduring relationships and partnerships between all parties involved. This requires comprehensive engagement, continuous involvement, and unwavering dedication to communal objectives.

3. ENERGY EFFICIENCY TARGET GROUP IDENTIFICATION

Identifying distinct stakeholder groups with unique interests, expertise, and influence in energy efficiency financing is a strategic imperative in order to promote this kind of investments (Kleanthis et al., 2022). This identification allows us to tailor efforts to each group's needs and strengths. Such a strategic focus ensures that the initiatives, including roundtables, working groups, and information dissemination efforts, are relevant and highly effective.

Understanding the specific target groups is also crucial in fostering more effective collaboration and partnerships. It creates opportunities for synergy between groups with complementary interests and objectives. Table 1 presents an analysis of the target groups based on four axes, namely residential buildings, public buildings, small and medium-sized enterprises (SMEs), and the tertiary sector.

Table 1. Energy efficiency stakeholders per sector

FINANCIAL SECTOR			
RESIDENTIAL	PUBLIC BUILDINGS	SMEs	TERTIARY SECTOR
Banks (National – Regional – EU), Finance Companies and Institutions, Authorities Managing Public Funds, Insurance Companies, Real Estate Investment Companies (Reics), Real Estate Portfolio Valuers and Brokers, Energy Service Companies (ESCOs)			
PUBLIC AUTHORITIES & POLICYMAKERS			
RESIDENTIAL	PUBLIC BUILDINGS	SMEs	TERTIARY SECTOR
EU Decision Making – Policymakers, European Parliament (Representing EU Citizens) - Council of the European Union (Representing EU governments) - European Commission (Representing the EU's Overall Interests), National Public Authorities, Regional Public Authorities, Local Public Authorities			
TECHNICAL AND SERVICE PROVIDERS			
RESIDENTIAL	PUBLIC BUILDINGS	SMEs	TERTIARY SECTOR
Technical Chambers – Associations of Engineers, Energy Auditors, Building Managers, Energy Managers, Project Developers (Associations & Individual Companies), Construction Companies (Associations & Individual Companies)			
RESIDENTIAL			
Building Owners Associations, Rental Housing Associations, Social Housing Associations			
PUBLIC BUILDINGS			
Public Building Managers, Public Building Managing Authorities			
SMEs			
SME associations, SMEs belonging to the primary and secondary sectors			
TERTIARY SECTOR ASSOCIATIONS			
Indicatively: Private Education Services, Private Health Services, Hospitality Industry			
ACADEMIA, CIVIL SOCIETY, MEDIA			
RESIDENTIAL	PUBLIC BUILDINGS	SMEs	TERTIARY SECTOR
Academia (Business & Financial Segments), Think Tanks, NGOs (relevant to energy and environmental conservation), and Media.			
OTHER STAKEHOLDERS			
RESIDENTIAL	PUBLIC BUILDINGS	SMEs	TERTIARY SECTOR
EU LEVEL ASSOCIATIONS (representing all the above domains), EU countries (out of SMAFIN Expanded) stakeholders relevant to the project domain, EU potential countries stakeholders (for the Cross Country Labs, mainly), LIFE sister projects and HORIZON 2020 active projects)			

Source: Own research

4. STAKEHOLDER ANALYSIS IN GREECE

The participatory approach is growing in popularity and increases the potential long-term success of the process through increasing stakeholder literacy and ownership (Karakosta & Papapostolou, 2023). Furthermore, in order to promote the implementation of intelligent financing practices in energy efficiency investments it is crucial to reach out and engage the most appropriate target groups working in this field. Indeed, knowledge about the expectations, roles and needs of external and internal players who have the potential to either influence or be influenced by energy efficiency investments is an initial but crucial step in the analysis of stakeholders' impact on mobilizing more notable investment in energy efficiency projects (Karakosta et al., 2021).

For the purposes of this study and in order to facilitate the LIFE Programme project “SMAFIN Expanded” (grant No. 101120412), so as to establish a wide stakeholders' network in Greece that could potentially be engaged in the SMAFIN Expanded project, have been identified 138 stakeholders.

More particularly, Figure 1 presents the visualization of the target groups identified. The majority are Public Authorities & Policymakers (30%), the Financial Sector (24%) and Technical & Service Providers (19%) are also highlighted, indicating the significant economic and technical dimensions of promoting energy efficiency investments. Secondary Stakeholders like academia and media (19%) highlight the role of research and communication, while Other Stakeholders (8%) suggest a diverse array of supporting participants.

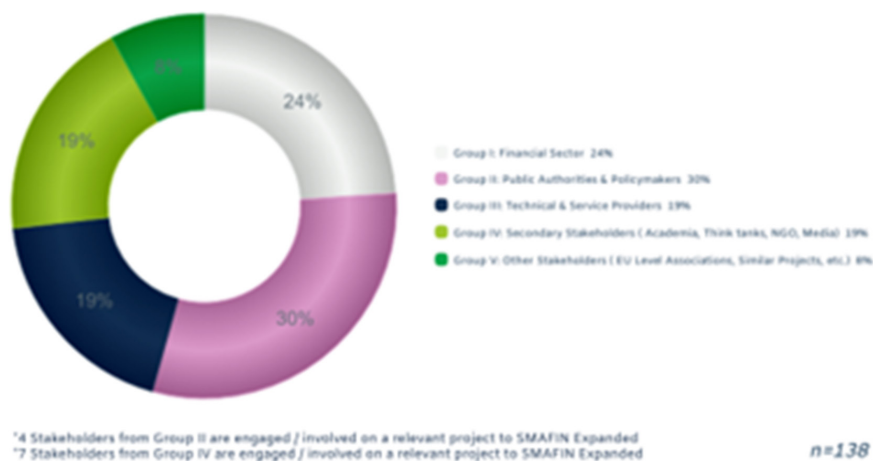


Figure 1. Distribution of Greek Stakeholders per Target Group
Source: Own research

Figure 2 illustrates stakeholder prioritization towards mobilizing more notable investment in energy efficiency projects. A significant majority, 68%, are deemed High Priority, indicating essential importance to promoting energy efficiency investments. Medium Priority stakeholders constitute the remaining 32%, while there are no stakeholders classified as Low Priority, suggesting that all identified parties are considered at least moderately vital to this objective.

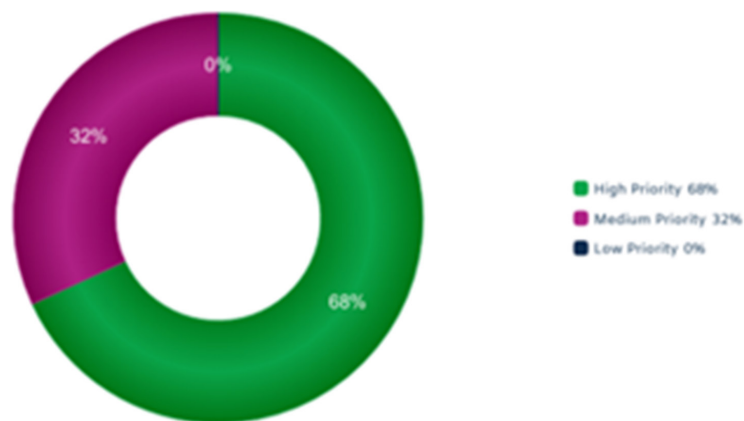


Figure 2. Greek Stakeholders Prioritization
Source: Own research

Figure 3 illustrates the categorization based on the significance level for stakeholder involvement using a 6-point rating scale (zero (0) – none; one (1) – very low; two (2) – low; three (3) – moderate; four (4) – high; five (5) – very high). As indicated in the chart, 70% of stakeholders have been outlined as having an elevated need for engagement (ratings 4 and 5), thereby highlighting their central role in achieving success in this undertaking. Conversely, approximately one-third (30%) are classified under the medium necessity category with rating-3 assigned to them.

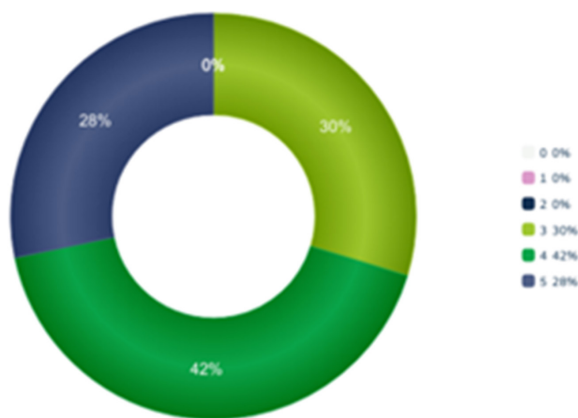


Figure 3. Greek Stakeholders' Value

Source: Own research

The stakeholders' potential influence is depicted in Figure 4, focusing on formal and professional language using a scale from zero (0) – none to five (5) – very high. The findings indicate that approximately 43% of stakeholders hold moderate influence (rated as 3). Additionally, notable segments possess high levels (16%) and very high levels (11%) of influence, respectively, while one quarter is rated at lower levels (2), with only a negligible percentage holding minimal sway over proceedings (5%).

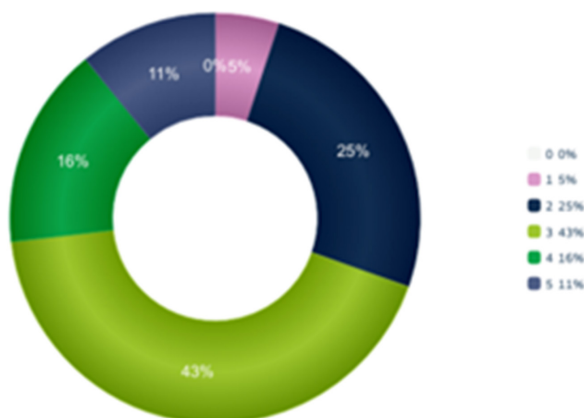


Figure 4. Greek Stakeholders' Level of Influence

Source: Own research

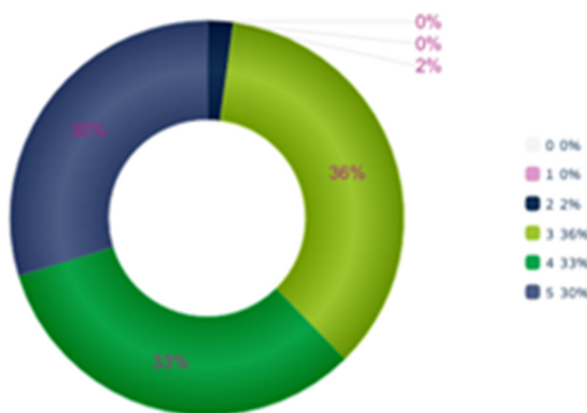


Figure 5. Greek Stakeholders Level of Expertise

Source: Own research

Figure 5 presents an analysis of stakeholders' expertise level (6-point rating scale from 0 - none to 5 - very high), indicating moderate interest in this endeavor (rating 3), while minimal concern registers at just about 1%. A vast majority, accounting for 69% of participants, exhibit moderate to high levels of expertise (ratings ranging from 3 to 5) concerning the project's subject matter. A minor percentage, approximately 2%, has been registered as low-level expertise ratings (rating 2).

5. FUTURE RESEARCH DIRECTIONS

As a next step and enhancement of this research is to define the specific short-term and long-term goals and objectives tailored to the needs and contributions of each stakeholder group. In this way stakeholder engagement process will align with the goals of enhancing energy efficiency and promoting sustainable practices.

Furthermore, further research could include the use of participatory tools in a case study, such as national roundtables, working groups, and cross-country labs. Thus, key outcomes and possible implications would result from the tailored stakeholders' engagement so as to maximize involvement from all stakeholders, disbursing best practices and mobilising private finances towards enhancing investments in energy efficiency.

6. CONCLUSION

An effective engagement approach fosters inclusive participation by creating opportunities for dialogue and exchanging knowledge while encouraging long-term commitment among financial institutions, public authorities, technical service providers, SMEs, and the tertiary education sector.

The stakeholders' identification process for the case of Greece resulted in 138 stakeholders with diverse backgrounds. For the purposes of this study the following criteria have been considered as important for facilitating an effective stakeholder engagement plan regarding energy efficiency investments in Greece:

- The necessity of involving the stakeholder.
- The extent of influence the stakeholder has in the market to contribute to the comprehensive communication, dissemination, and further exploitation of the project's outcomes.
- The level of expertise and knowledge in the specific subjects.

Following identifying the stakeholders, determining which groups and individuals are essential to engage according to the engagement's purpose and scope is fundamental. The level of engagement of specific stakeholder groups should be based on a balanced approach, closely related to their interest in participating and their expertise to contribute to the project's core objectives.

Based on the research conducted and through the proposed approach, knowledge about the expectations, roles and needs of external and internal players who have the potential to either influence or be influenced by energy efficiency investments have been easily extracted. This knowledge is an initial but crucial step in the analysis of stakeholders' impact on mobilizing more notable investment in energy efficiency projects.

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