

D7.1

Stakeholder engagement framework

Prepared by: KAS
Contributions from:
LUT, VPS, TNO, UNIBO, FhG & TEC

Deliverable nature	Report
Dissemination level (Confidentiality)	Public (PU)
Delivery date	2021-07-06
Version	1.0
Total number of pages	39
Keywords	Stakeholder engagement, case study participants, energy citizenship, energy community
Cite as	Nokelainen, P., Talikka, H. (2021). Stakeholder Engagement Framework. D7.1 of the Horizon 2020 project GRETA, EC grant agreement no 101022317, Helsinki, Finland
Project contact	Hanna Talikka, email: hanna.talikka@kaskasmedia.fi



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This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101022317.

Executive summary

This Stakeholder Engagement Framework is prepared in the context of WP7 – Communication, Dissemination and Exploitation (Task 7.4, Stakeholder engagement and interaction) – of the GRETA project under Grant Agreement No. 101022317.

GRETA aims to understand energy citizenship and increase the awareness of energy citizenship across the EU. This cannot be done without active engagement of stakeholders and case study participants. GRETA's stakeholder engagement framework offers foundational methods to be used for identifying, mapping and segmenting GRETA's stakeholders and case study participants. It is a strategic framework for more detailed and concrete stakeholder and case study participant engagement plans to be created by the GRETA case studies.

The framework describes GRETA's internal working process. It presents a six-step process and a set of guidelines that aim to facilitate all case studies' work while planning inclusive, collaborative, and empowering engagement activities.

Project information

Grant agreement No.	101022317
Acronym	GRETA
Full title	GReen Energy Transition Actions
H2020 Topic	H2020-LC-SC3-2020-NZE-RES-CC
Project URL	www.projectgreta.eu

Document information

	Number	Title
Deliverable	D7.1	Stakeholder engagement framework
Work package	WP7	Communication, Dissemination and Exploitation
Task	T7.4	Stakeholder engagement and interaction

Delivery date	Contractual: M3, Actual: M3
Nature	<input checked="" type="checkbox"/> Report <input type="checkbox"/> Other <input type="checkbox"/> ORDP
Dissemination level	<input checked="" type="checkbox"/> Public <input type="checkbox"/> Confidential
Authors (partners)	Hanna Talikka, Pasi Nokelainen (KAS)
Reviewers (partners)	Martina Massari, Saveria Boulanger, Danila Longo (UNIBO)
Summary (for dissemination)	GRETA's stakeholder engagement framework offers foundational methods to be used for identifying, mapping and segmenting GRETA's stakeholders and case study participants. It is a strategic framework for more detailed and concrete stakeholder and case study participant engagement plans to be created by the GRETA case studies.
Keywords	Stakeholder engagement, case study participants, energy citizenship, energy community

Version	Date	Description
0.1	2021-06-07	First draft
0.2	2021-06-08	Second draft
0.3	2021-06-15	Third draft sent to the internal review
0.4	2021-06-22	Revised final draft
1.0	2021-07-06	Final version

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Abbreviations and acronyms

ADS: Automated Driving Systems

FAQ: Frequently Asked Questions

KPI: Key Performance Indicator

CD&E: Communication, Dissemination, and Exploitation

M1–36: Project Month

MOB: Mobility

NGO: Non-Governmental Organisation

PPP: Public-Private Partnership

EEAB: External Expert Advisory Board

SME: Small-/medium-sized enterprise

WP: Work Package

1 Introduction

1.1 Background

The EU aims to reach climate neutrality by 2050. This goal can be achieved if citizens are given equal opportunity to act towards it. Energy citizenship means that every citizen can participate in decarbonisation actions. GRETA wants to understand how energy citizenship works and what kind of knowledge, societal structures, technology, or financial resources are needed to become an active energy citizen. From 2021 to 2023, the project will study energy communities in Germany, Italy, the Netherlands, Portugal, and Spain. These are called GRETA case studies. The findings will help EU policymakers to encourage active citizen participation.

GRETA aims to understand energy citizenship and increase the awareness of energy citizenship across the EU. This cannot be done without active stakeholder and case study participant engagement. The stakeholder engagement framework ensures that our activities and outputs are in line with our stakeholders and case study participants' needs, the knowledge produced in the project reaches relevant audiences and that we can follow the changes in energy citizenship awareness.

GRETA's main hypothesis is that citizens fall into different phases of energy citizenship awareness and citizens can move from one awareness level to another due to a change of conditions. GRETA studies these points of transition and tries to recognise factors that can cause these transitions. This hypothesis is crystallised in the energy citizenship awareness framework displayed in Figure 1. Numbers from 1 to 6 represent GRETA's case studies and transitions (described in Section 5).

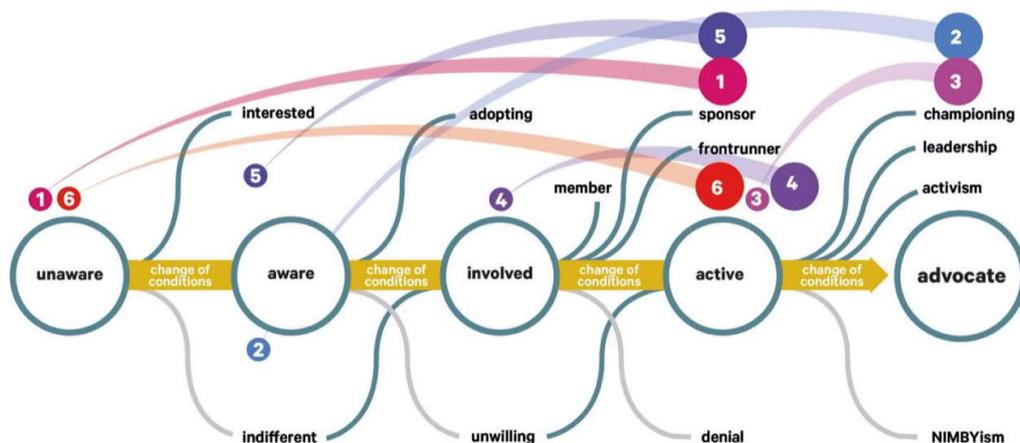


Figure 1. Transition outcomes in the GRETA's energy citizenship awareness framework.

To follow these transition points and changes, GRETA's case studies need to first recognise their stakeholders and case study participants and determine fruitful methods and measures of engagement. This stakeholder engagement framework is aligned with the energy citizenship awareness framework. However, the stakeholder engagement framework takes a more communication-oriented approach to stakeholder and case study participant engagement (see Section 1.4).

This framework is based upon extensive benchmarking. It borrows from classic marketing models such as AIDA (Lawrence 2018, p. 3) but also from well-known stakeholder engagement models and the newest end-user engagement research.

1.2 Description of the deliverable

GRETA's stakeholder engagement framework was formed under work package 7: Communication, Dissemination, and Exploitation. The work package is led by KAS with contributions by LUT, VPS, TNO, UNIBO, FhG, TEC and GESIS. This framework belongs to task 7.4. Stakeholder engagement and interaction. The task is led by KAS, who is responsible for GRETA's communication, dissemination, and exploitation work package (WP7). The task received support from GRETA's case study leaders (VPS, TNO, UNIBO, FhG and TEC) and project coordinator (LUT).

According to Section 1.3 of Annex 1, part A, of the Grant Agreement, in subtask 7.4.1, a stakeholder engagement framework will be created at the beginning of the project, aiming at identifying, mapping out and segmenting the full spectrum of stakeholders from the case studies elicited in GRETA, based on aspects of social justice and civic engagement. To do so, local desks will be set up in each case study as a means to enable the permanent management of stakeholders throughout the implementation of the project. This approach is linked with the gatekeeping theory (Shoemaker and Vos, 2009, p. 3–4), which refers to the process through which information is filtered and controlled by gatekeepers for further dissemination, thus bridging the downstream (stakeholders) and upstream communications (project consortium) in project developments.

KAS is in charge of the overall stakeholder management, receiving support from LUT and case study leaders VPS, TNO, UNIBO, FhG and TEC, who will provide local CD&E desk support. Given the specific social, cultural, and language context of each of the case studies, CD&E desks will play an important role in GRETA in terms of stakeholder interactions.

1.3 Purpose of the stakeholder engagement framework

GRETA's stakeholder engagement framework offers foundational methods for identifying, mapping and segmenting GRETA's case studies' stakeholders and case study participants. It offers a strategic framework for a more detailed and concrete stakeholder and case study participant engagement plan. The framework describes GRETA's internal working process.

1.3.1 The five main purposes for this stakeholder engagement framework:

- Form a coherent and shared understanding of GRETA's stakeholder and case study participant engagement process within the project.
- Offer GRETA's case studies tools to identify, map and segment their stakeholders and case study participants.
- Offer methods for each case study to find a relevant way to continually assess the awareness levels of their case study participants.
- Help GRETA's case studies in planning and executing stakeholder and case study participant engagement activities throughout the project's lifetime.
- Help the execution of GRETA's communication, dissemination, and exploitation objectives.

1.3.2 Important exclusions and remarks:

- This framework does not offer a methodological or theoretical framework for the research done in GRETA. The framework will be updated and aligned with the work done in work package 1 (see Section 2.3 for work package structure).
- This framework is aligned with GRETA's energy citizenship awareness framework (see Section 4.4). The stakeholder engagement framework borrows from the awareness framework and applies it to a broader and more communication-oriented view of stakeholders and case study participants.
- This framework is applied independently by each case study and each case study can modify it to an extent to their specific needs and stakeholder and case study participant groups.

1.4 Key definitions

1.4.1 Stakeholder

A stakeholder is an individual or organisation whose contribution is crucial for the success of the "change of conditions" to be performed in the case studies and to reach the research and dissemination goals. GRETA's stakeholders include citizens, policymakers, urban institutions, journalists, the energy industry, non-profits, NGOs, and communities in Europe. Stakeholders are gatekeepers or ways to reach out to the project's case study participants.

1.4.2 Case study participants

Citizens participating in the GRETA case studies are referred to as “case study participants” in this document. In different scientific disciplines, they are often referred to as “end-users”. GRETA’s case study participants are, for example, individuals, households, climate action movements or cooperatives. Citizens who participate in the case studies are not dealt with as mere passive subjects of study, but as active participants of the project. The involvement of citizens in the case studies will be voluntary and we will make sure that no discrimination takes place.

1.4.3 Engagement

Engagement describes the different ways GRETA’s stakeholders and case study participants are informed about or actively involved in the project during its lifetime. Engagement methods vary depending on the specific stakeholder, case study participant, and case study.

2 GRETA overview

2.1 GRETA in a nutshell

The GRETA project aims to improve understanding of the conditions and barriers for energy citizenship emergence. Energy citizenship has come to represent a form of active participation within energy systems that ultimately supports local and global decarbonisation goals (Annex 1 of the Grant Agreement).

Energy citizenship can manifest in many ways, such as individual homeowners choosing renewable energy solutions or adoption of electric vehicles, participation in energy communities, or advocating for climate change. But not everyone has the possibility to participate. This can be due to a range of factors, including being unaware of issues or their practical solutions; being excluded from debates and decision-making; being prevented from taking action due to lack of resources or lack of power.

Through a multinational survey and six participatory case studies, GRETA will develop frameworks and models aimed to reveal what factors affect energy citizenship and how they do so. These will be utilised within case studies to identify problems, frame solutions, and reach consensus on roadmaps for change, formalised through Energy Citizenship Contracts. Findings throughout the project will be utilised to inform and encourage policymakers to advocate energy citizenship.

2.2 Project objectives

GRETA's overall objective is to deepen the knowledge of factors that influence the emergence of energy citizenship, using a novel combination of scientific methods and models. GRETA will use this knowledge to provide recommendations for improvements in the policy and legislative framework to enhance energy citizenship's contribution towards decarbonisation goals.

GRETA's overall objectives can be divided into more concrete main objectives which are as follows:

Objective 1: To understand who energy citizens are and clarify concepts, definitions, and evolving perspectives on energy citizenship.

Objective 2: To understand how energy citizens act and interact individually and collectively, within energy communities, and whether and how exclusion from this process happens.

Objective 3: To develop and test behavioural strategies, approaches and models for facilitating energy citizenship leading to new strategies for achieving decarbonisation.

Objective 4: To realise impact by cross-scaling approaches through geographical levels leading to generalising and formalising project outputs for further use.

Objective 5: To improve the policymaking process towards more favourable governance, policy, political, legal, and financing framework for the emergence of energy citizenship in the EU.

2.3 GRETA work packages

This stakeholder engagement framework will be aligned with the work done in other work packages. GRETA has eight work packages (Figure 2), and this framework serves besides the case studies, also the work done in work package 1 (energy citizenship framework), work package 4 (data processing and modeling) and work package 5 (community pathways).

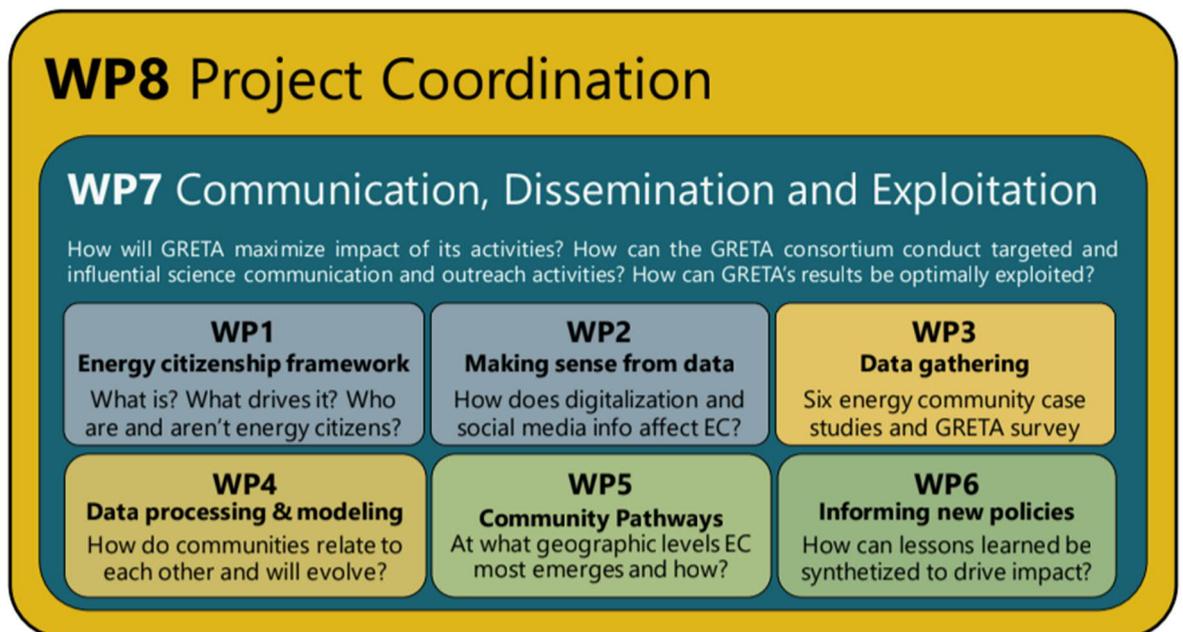


Figure 2. GRETA's work package structure.

2.4 GRETA case studies

GRETA uses a multidisciplinary approach to develop and test a variety of methods within case studies – in different types of energy communities and geographic levels – to create pathways towards decarbonisation. Findings from across the case studies and the project as a whole are formalised into a set of policy briefs.

The case studies are situated all over Europe and they are led by GRETA partners.

2.4.1 Case study 1: Renewable energy district, Bologna Pilastro-Roveri, Italy

The area (400ha) is a mixed-use district, located in the northeast part of Bologna. It was built in the '60s as a response to the growing need for social housing, for locating immigrants. The district is composed of two neighbourhoods: Pilastro (residential), and Roveri (industrial). Pilastro was originally conceived as an autonomous 'village' with proximity services and crafts activities. Unfortunately, these have not been built creating a nearly mono-functional residential neighbourhood, which became a source for social and economic issues. The municipality confirms that the area is hit by energy poverty emergencies. The Roveri area, adjacent to Pilastro, hosts a variety of companies in multiple sectors (e.g., packaging, mechanics, and electric vehicles). In this context, a financed project from the European Institute of Innovation & Technology is working to create the first energy community of the city (GECO project). This community is under construction and some participatory meetings were started before the beginning of the 2020 pandemic. The energy community will benefit from the presence in the area of the CAAB-FICO industrial partners, which has the EU largest PV plant on industrial roofs.

2.4.2 Case study 2: Natural gas-free neighbourhoods, The Netherlands

Fueled by increasing earthquakes in the vicinity of Groningen gas field, the Netherlands has decided that all its neighbourhoods will become natural gas-free by 2050. The most significant challenge has a social nature, as building owners and residents have to be engaged so that they accept and invest in the renovation of the built environment. Municipalities are given the responsibility to ensure this sustainability transition. In 2019, the Dutch national program on natural gas-free neighbourhood provided subsidies to 27 pilot neighbourhoods to develop natural gas-free heat infrastructures so that the learnings can be used for the rest of the Netherlands. In 2021, approximately 25 additional pilots will start. These pilots are focused on the residents of the neighbourhoods who have to adapt to the changes in the provision of the heat: all electric or sustainable district heating. Often these pilots are organised in the form of a co-operative co-designing this transition together with local residents and with the techno-economic support from the municipality. To capture different factors and conditions that stimulate the emergence of energy citizenship in the GRETA project, we will conduct this case study in close collaboration with multiple pilots and the Dutch national program on natural gas-free neighbourhoods.

2.4.3 Case study 3: Coopérnico - Renewable energy-driven cooperative, Portugal

Coopérnico was born in 2013 and it is the first renewable energy cooperative in Portugal. Today, it has more than 1,700 members, including citizens, small-medium enterprises, and municipalities. Coopérnico's mission is to involve its members to reshape the energy sector into a more renewable, socially just and collaborative one. Coopérnico's working areas are renewable electricity production, commercialisation, and energy services. The cooperative has financed 28 collective PV projects, raising

over 1.7M€ from collective financing campaigns in partnership with different social entities that provided physical spaces for the PV installations. From 2019 Coopérnico became an independent electricity retailer, becoming able to directly supply its members. The cooperative aims at supplying 100% green electricity by 1) matching supply and demand; 2) signing power-purchase agreements with additional renewable power plants; 3) buying guarantees of origin to ensure 100% renewable energy provision. Coopérnico has organised informative sessions (open to its members and the wider public) to talk about energy efficiency practices; participated in EU-wide R&D projects to explore innovative energy services; and it is actively supporting the creation of local energy community projects and lobbying at the national level to support the citizens' perspectives in the transposition of European directives.

2.4.4 Case study 4: UR BEROA - Energy efficiency-driven cooperative, Spain

Along the years since its foundation, UR BEROA has evolved towards cleaner and more efficient energy solutions and technologies: from using fuel oil and gas to introducing the cogeneration engine, along with energy meters in order to measure the consumption of each household. The next step taken was towards the introduction of cleaner energy sources, with the deployment of a biomass boiler. Other measures related to energy efficiency were also taken, such as performance improvements in the main plant and substations and the upgrading of monitoring systems. With regards to the future plans, the cooperative is in negotiations to offer its services to a group of 237 households close to the neighbourhood, analysing how to implement collective self-consumption and how to generate other energy services and infrastructures for the community (e.g., e-mobility).

2.4.5 Case study 5: MobileCityGame - A virtual community for sustainable mobility in Karlsruhe, Germany

MobileCityGame will be a serious game developed (mainly) for citizens to gain insights on and participate in the sustainable planning of mobility within a city. The interactive digital game will simulate a city including its population, infrastructure, mobility services, behavioural trends, new technologies and energy systems. For sustainable urban planning, various factors and stakeholders need to be considered and will be carefully designed as part of the game. To reach a successful and sustainable mobility strategy, the players have to take on the perspective of a sustainable city planner (i.e., decision-makers) with all related processes and decisions. Players' choices influence the course of the game, so they get immediate feedback on their behaviour and experience the complexity. Thus, the game aims to provide a systemic view, to make citizens aware of the complex interrelation of different aspects and of their behavioural consequences. It facilitates citizen participation and enhances citizens' understanding of policy-/decisionmakers. Consequently, citizens gain awareness of energy usage and the importance of sustainable mobility within their city. The serious game combines the knowledge of sustainable city mobility with the gamification aspect. MobileCityGame presents a prototype that will be implemented and tested in Karlsruhe.

2.4.6 Case study 6: Electric autonomous and connected mobility network

Electric and autonomous mobility is seen as a major step towards zero deaths in traffic and as a strong contributor to achieving the European sustainability and decarbonisation goals. Currently, there are policies in many EU member states that give support to the deployment of new electric vehicles. Many of the new electric vehicle stock is being sold with automated driving systems (ADS) that currently provide partial self-driving capabilities. It is expected that mass production of electric and autonomous mobility (level 3) can be achieved as early as 2025. Currently, the roadmaps for pre-deployment and deployment are in preparation within the European Cooperative, Connected and Automated Mobility (CCAM) partnership. Such partnership is primarily integrated by member state authorities, major manufacturers, research and standardisation organisations and different instances of the European Commission (see CCAM). The role of the normal citizen has been very limited, hence the rationales to study how the engagement of citizens is likely to emerge in this important realm of sustainable energy transitions.

2.4.7 Critical points of engagement in the case studies

Each GRETA case study has a unique socio-cultural context and set of stakeholders. Some case studies will involve individual consumers and other case studies aim to engage groups such as associations and cooperatives. These differences pose certain prerequisites for the framework and engagement activities:

- The framework should offer the foundational methods but, at the same time, be as flexible as possible to accommodate the different needs of each case study.
- Each case study should carefully analyse the socio-cultural context of their study.
- Each case study should be able choose engagement methods suitable for their context and goals.
- The framework should offer a way to share knowledge of stakeholder and case study participant engagement activities between the case studies.

3 Principles and objectives of stakeholder engagement

3.1 Principles of stakeholder engagement in GRETA

These principles guide and define GRETA's stakeholder and case study participant engagement activities.

3.1.1 Inclusiveness

GRETA actively supports diversity and inclusion. We recognise that our stakeholders and case study participants are diverse. Stakeholder and case study participant groups are heterogeneous, and each stakeholder and case study participant have unique qualities that need to be considered. This framework offers methods for engagement planning, but it should be modified, preferably together with stakeholders and case study participants, according to each groups' needs.

We will make a special effort to ensure diversity and inclusion in the engagement activities. While designing activities, we will screen the contents from the perspective of gender, ethnicity, nationality, language, social status, wealth, and religion, among others. We also consider if different types of support are needed to ensure equitability.

3.1.2 Collaboration

GRETA prefers peer-to-peer instead of a top-down approach when it comes to engagement. We engage stakeholders and case study participants early and create a community that benefits them as well as the project. We are transparent and respectful in our approach. Outcomes from the engagement are visible to our stakeholders and case study participants.

3.1.3 Empowerment

Stakeholders and case study participants are not seen as mere passive subjects of study. We co-create and co-act together with them. GRETA shares tools, knowledge, platforms, and possibilities, especially for our case study participants, to participate in energy systems even after our project ends.

3.2 Objectives of stakeholder and case study participant engagement in GRETA

There are three main objectives of stakeholder and case study participant engagement in GRETA:

1. Reach out to, gain the trust of, and get feedback from stakeholders and case study participants on research assumptions and align or share viewpoints and positions on energy citizenship and justice.

2. Raise the awareness of energy citizenship among GRETA's case study participants.
3. Follow the levels of awareness of GRETA's case study participants.

All of the engagement activities are planned so that they contribute to achieving these objectives.

4 Process for engagement – GRETA’s six-step engagement framework

This is a description of GRETA’s internal process which aims at identifying, mapping and segmenting stakeholders and case study participants. Every case study goes through these six steps in the order they feel most appropriate. Some case studies have already formed a clear picture of their stakeholders and case study participants while others are still at the very beginning of their study. The aim is to gather information from each step into a shared document that allows peer-to-peer learning among the case studies.

4.1 Clarifying the context

Each GRETA case study has a unique socio-cultural context. That is why each case study needs to clarify the context of their study before they start to identify stakeholders and case study participants. Each case study is asked to answer the following questions.

- What are your objectives? What is the desired change in awareness?
- In what context does the behaviour take place? Is the context public or private?
- What are the regulatory factors you need to take into account?
- Which are your long-term objectives in awareness raising? How are you looking to maintain your long-term objectives?
- Have there been other similar initiatives or projects in the past? Were they successful and why? What were the barriers and how were they tackled?

4.2 Identifying, mapping and segmenting stakeholders

A stakeholder (as defined in Section 1.4) is an individual, group or organisation which has an impact on and/or is impacted by the case study. The impact can be positive or negative. All case study leader partners are asked to follow these instructions.

1. Identifying stakeholders

List all relevant stakeholders to your case study. Go through at least these categories:

- a) national, regional, and local level political decision-makers*
- b) governmental or other public agencies*
- c) energy/mobility providers, retailers and/or associations*
- d) civic organisations (for example, NGOs, housing associations)*
- e) case study participants (for example, housing cooperatives)*
- f) local industries and SMEs*

Be precise when listing your stakeholders. Use this example to assess the preciseness of your identification and aim at level 3 of preciseness (Table 1). Be aware of ethics and sensitive data collection and align your list with GRETA’s Data Management Plan (deliverable D8.5, due in M6).

Table 1. Stakeholder identification levels.

Level 1: too vague	Level 2: not precise enough	Level 3: precise
energy industry	energy providers in the city of X	company Y, contact person Z

2. Mapping stakeholders

Mapping stakeholders means assessing their relationship to the project and each other. Place all your stakeholders in the matrix in Figure 3 according to their interest and influence on the case study. Each case study needs to keep in mind that this matrix is an internal and artificial tool, and it does not necessarily reflect the reality of each stakeholder and case study participant. However, it helps to gain an initial understanding of the stakeholders. The stakeholder relationships should be assessed together with the stakeholders as the case study advances.

Before assessing the interest and motivation each stakeholder has towards your case study, choose a concrete indicator to measure the impact of your engagement activities. An indicator allows you to follow how the interest of your stakeholder changes over time. Good indicators of interest are, for example:

- *subscription to a newsletter*
- *membership in a group or association*
- *attendance to an event*
- *social media behaviour*

If your case study is at the very beginning, it is understandable that indicators can be difficult to define at this point. Choose an indicator that you can start to follow when the case study is in full progress.

When you are placing your stakeholders in the matrix, assess their relationship with each other. Does one stakeholder act as a gatekeeper to another stakeholder? Mark this in the matrix as well.

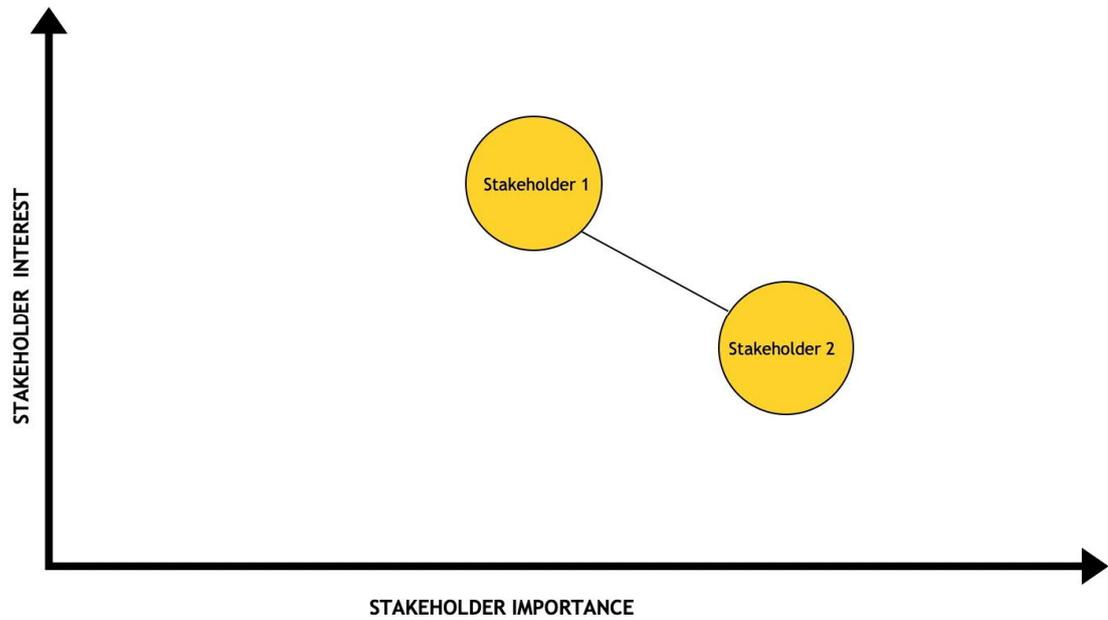


Figure 3. Stakeholder matrix.

3. Segmenting stakeholders

After you have placed your stakeholders in the matrix, it is possible to segment them into four groups according to their interest and influence (Figure 4).

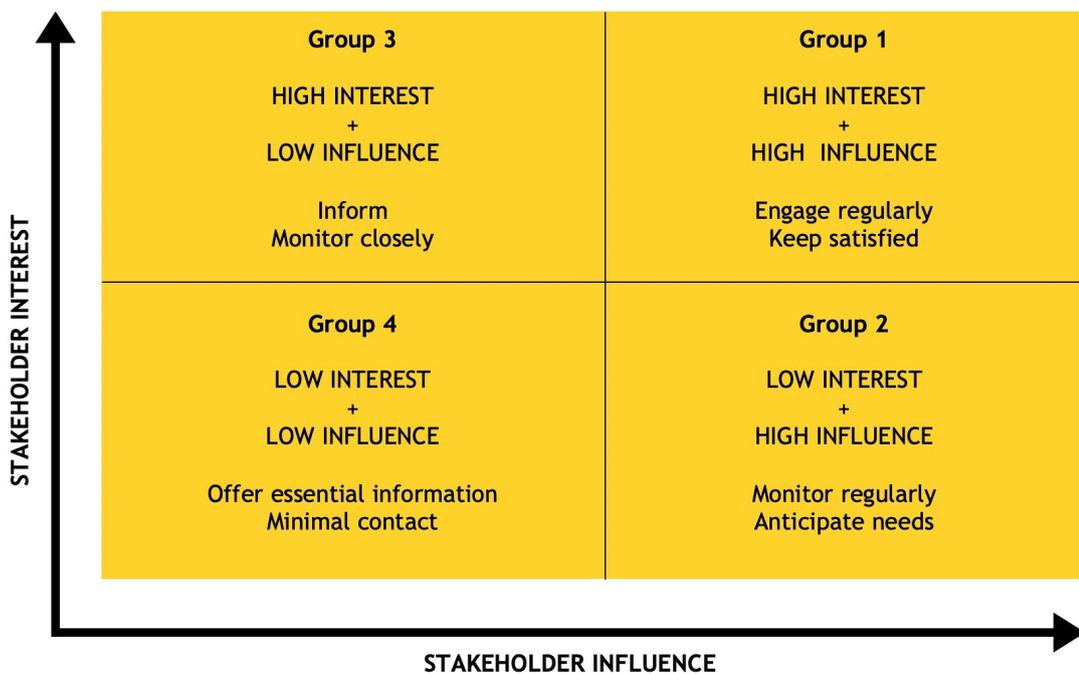


Figure 4. Stakeholder segments.

Group 1: High interest + high influence

- *This group includes your most important stakeholders*

Group 2: Low interest + high influence

- *This group also includes important stakeholders*
- *This group includes stakeholders whose needs you need to take carefully into account when you are engaging with them*

Group 3: High interest + low influence

- *This group includes stakeholders who are interested in your case study but not necessarily the ones you engage with regularly*

Group 4: Low interest + low influence

- *This group includes stakeholders that you should be aware of but who are not at the centre of your engagement activities*

4.3 Identifying, mapping and segmenting case study participants

A case study participant (as defined in Section 1.4) is an individual, group or organisation that participates in a GRETA case study. They are members of different energy communities. GRETA case studies observe the different levels of energy citizenship awareness of their case study participants. The assessment of awareness is used as a tool for more detailed case study participant segmentation (compared to stakeholders). All case studies are asked to follow these instructions.

1. Identifying case study participants

List all relevant case study participants of your case study (Table 2). Try to identify key players or influencers in the community as well as groups. Be precise enough when listing your case study participants but also be aware of ethics and sensitive data collection. Align your list with GRETA’s Data Management Plan (deliverable D8.5).

Use these examples to assess the preciseness of your identification and aim at level 3 of preciseness.

Table 2. Case study participant identification levels.

Level 1: too vague	Level 2: not precise enough	Level 3: precise
neighbourhoods in the city of X	households Y and Z	individual W
students in the X city area	students at university Y	students aged between 18-22 taking course Z and/or member of association W

2. Mapping case study participants

Mapping case study participants means assessing their relationship to the project, to each other and to stakeholders you defined in step 2 of the GRETA's stakeholder engagement framework (see Section 4.2). This step helps you to see which case study participants are easier to approach through your stakeholders and what initial attitude they might have towards the case study.

Place all your case study participants in the matrix in Figure 5 according to their interest and importance. Again, each case study needs to keep in mind that this matrix is an internal and artificial tool, and it does not necessarily reflect the reality of each stakeholder or case study participant. However, it helps to gain an initial understanding of the case study participants. The case study participant and stakeholder relationships should be assessed together with the case study participants and stakeholders as the case study advances.

Before assessing the interest and motivation that each case study participant has towards your case study, choose a concrete indicator. How will you recognise if the case study participant is interested to participate in the case study? An indicator allows you to follow how the interest of your case study participant changes over time. Good indicators of interest are, for example:

- *subscription to a newsletter (GRETA's newsletter)*
- *membership in a group or association*
- *attendance to events (organised by the case study)*
- *social media behaviour*
- *answers to emails, questionnaires, or phone calls (made by the case study)*

If your case study is at the very beginning, it is understandable that indicators can be difficult to define at this point. Choose an indicator that you can start to follow when the case study is in full progress.

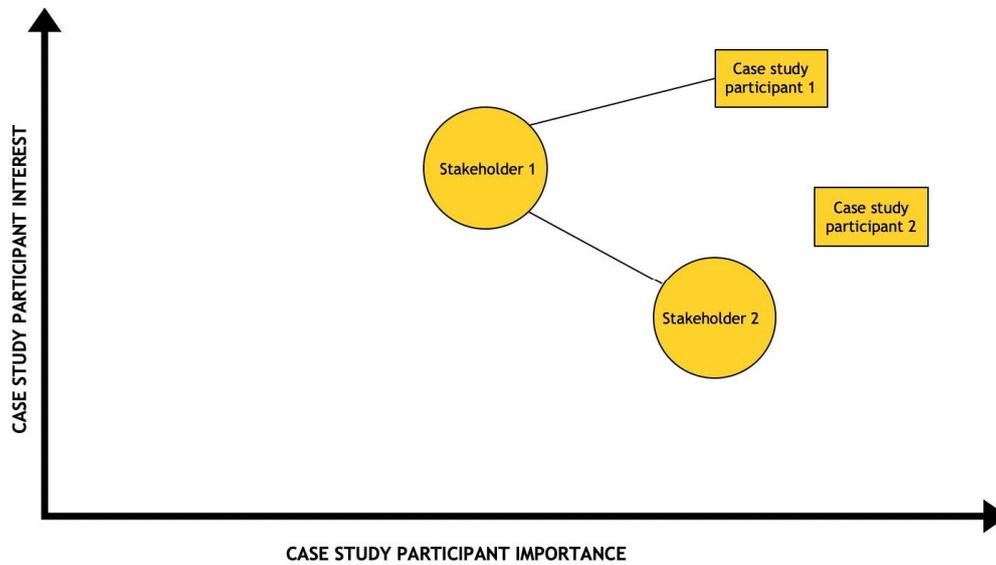


Figure 5. Case study participant matrix.

3. Segmenting case study participants

Unlike stakeholders, case study participants will be segmented according to their energy citizenship awareness. This segmentation is made using GRETA’s energy citizenship awareness framework (see Section 1.1). Use the knowledge you already gained from the case study participant matrix but now make a more detailed analysis of case study participant interest.

Try to place each case study participant to a case study participant awareness level (Figure 6). Indicators for each level will be chosen within GRETA’s WP1 (see Section 2.3). Indicators should answer these questions: When is the case study participant unaware, aware, involved, active or advocate? How can you follow the changes in awareness? Notice that if you have already grouped case study participants, the awareness levels might vary inside a group.

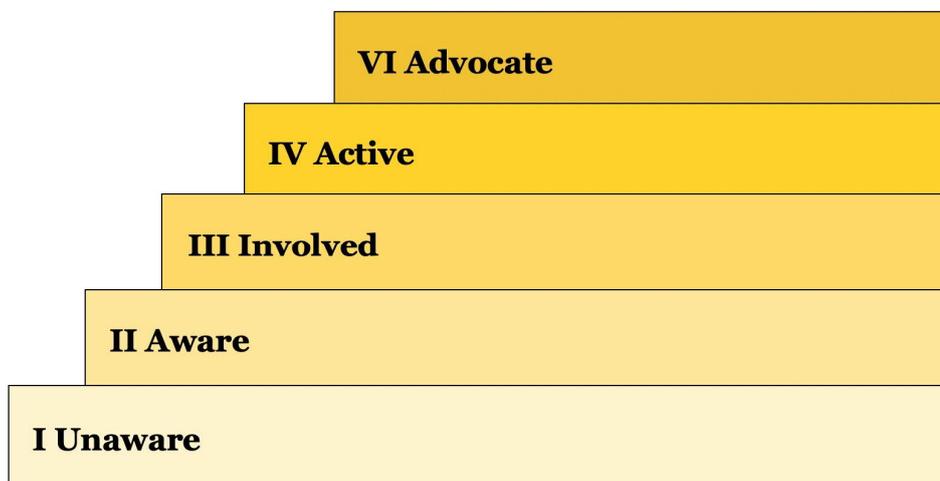


Figure 6. Case study participant awareness levels.

4.4 Determining methods and strategies of engagement for stakeholders

After finishing steps 1–3, each GRETA case study is asked to choose suitable engagement methods for each stakeholder segment.

Examples of suitable engagement methods according to stakeholder segment

Group 1: High interest + high influence

- *Engage them early and regularly in the planning of your case study*
- *Ask these stakeholders to join GRETA's newsletter list and social media channels*
- *Consider inviting them to GRETA's EEAB or co-creation workshops*
- *Arrange face-to-face meetings and info sessions*
- *Organise joint campaigns or joint events*

Group 2: Low interest + high influence

- *Proactively look for ways to motivate this group*
- *Consider social media marketing, competitions, info events and media coverage*
- *Look for channels, platforms, and events where this stakeholder group is already actively present and join them*

Group 3: High interest + low influence

- *Engage early and keep informed throughout the case study*
- *Ask these stakeholders to join GRETA's newsletter list and social media channels*
- *Keep an eye out for changes in influence*

Group 4: Low interest + low influence

- *Monitor this group through social media and traditional media*
- *Keep an eye out for changes in influence and interest*

Make an engagement plan for each stakeholder segment

List your stakeholders in a spreadsheet like the one below (Table 3).

- *Decide on a key message for each stakeholder. A key message describes how your case study and GRETA benefits that stakeholder and why they should care about the case study. The key message and channels you use can be updated when necessary.*
- *Also, decide on the time frame of your engagement activities. Are you going to engage the stakeholder regularly or not that regularly?*

Table 3. Stakeholder engagement plan template.

Stakeholder category	Name and role	Key message	Channel(s)	Time frame
Local decision makers	X, city development manager	Renewable energy solutions and citizen participation bring new opportunities for your city	Face-to-face meetings, personalised emails	At the start, mid-point, and end of the study

4.5 Determining methods and strategies of engagement for case study participants

After finishing steps 1–4, each GRETA case study is asked to choose suitable engagement methods for each case study participant segment.

Examples of suitable engagement methods according to case study participant segment

I Unaware

- *Look for channels, platforms, and events where this case study participant group is already actively present and join them*
- *Consider social media marketing, influencer marketing, competitions, and media communication*

II Aware

- *Share new and interesting content on social media, website, and events*
- *Offer info events, videos, and brochures*
- *Offer easy ways to get involved*

III Involved

- *Ask these case study participants to join GRETA's newsletter list and social media channels*
- *Ask these case study participants to join the GRETA community*
- *Offer instructions, tips, and support*
- *Actively offer new information through info events, workshops, seminars, website, and social media*

IV Active

- *Ask these case study participants to join GRETA's newsletter list and social media channels*

- *Ask these case study participants to join the GRETA community*
- *Actively offer new information through info events, workshops, seminars, website, and social media*
- *Collect feedback*

VI Advocate

- *Engage and consult this case study participant group early and regularly in the planning of your case study*
- *Ask these case study participants to join GRETA's newsletter list and social media channels*
- *Ask these case study participants to join the GRETA community*
- *Invite them to be in a key part in workshops and panels*
- *Organise joint efforts (campaigns and events, for example)*
- *Collect feedback actively*

Make an engagement plan for each case study participant segment

List your case study participants in a spreadsheet like the one below (Table 4).

- *According to end-user engagement research (Klein, Matos, and Allegretti, 2020, p. 2–3), the end-user engagement process can be divided into two phases: the activation phase and the continuation phase. If they seem relevant to your case study, you can use the phases to plan two different engagement strategies. In the activation phase, case study participants are still influenced by old "unsustainable" habits. In the continuation phase, the case study participants have adopted new sustainable behaviour models and are incorporating them into their daily routines.*
- *Decide on a key message for each case study participant. A key message describes how your case study and GRETA benefits that case study participant and why they should care about clean energy choices. The key message and channels you use can be updated when necessary.*
- *Also, decide on the time frame of your engagement activities. Are you going to engage the case study participant regularly or not that regularly?*
- *Name stakeholders that could act as channels or gatekeepers to your case study participants.*

Table 4. Case study participant engagement plan template.

Name	Awareness level	Key message (1. Activation phase 2. Continuation phase)	Channels (1. Activation phase 2. Continuation phase)	Connected stakeholders	Time frame
X	II	1. This is how you can reduce your carbon footprint and energy bills. 2. Your energy bills have now been reduced by x%. Continue and your carbon footprint will be x% less than last year.	1. Social media campaign 2. Emails, info event, FAQs	Association X mailing list and social media channels	M09-M12

4.6 Reporting and following engagement

All the above-mentioned steps in the GRETA stakeholder engagement process will be collected by the case studies into a shared stakeholder engagement plan. This framework and the plan will be assessed and updated quarterly by KAS and the case studies. The plan will include indicators that follow the awareness levels of case study participants and the interest of stakeholders.

In addition to indicators to be chosen by the case studies and to be defined in work package 1, KAS will monitor these measures of success to be defined also in GRETA's CD&E strategy (D7.2, due in M5):

- More than 7 people registered to each stakeholder or case study participant workshop
- 300 followers on Twitter
- 150 connected individuals on LinkedIn
- 100 members in the GRETA community
- 200 subscribers of GRETA e-newsletter
- Participation in more than 2 x EU events, 4 x industry events and 4 x community events
- Collaboration with more than 5 projects, networks, associations & initiatives

Reporting and following engagement activities is an important function – in both the case studies and the project as a whole.

5 Preliminary case study-specific engagement strategies

Each GRETA case study has made an initial assessment of the context and awareness level of their study. These are the preliminary strategies for stakeholder and case study participant engagement in each case study.

5.1 Case study 1: Renewable energy district, Bologna Pilastro-Roveri, Italy

Bologna Pilastro-Roveri is a socio-economically complex neighbourhood area, featuring a mostly unaware community in relation to energy topics. The Green Energy Community project (GECO) started some engagement activities and meetings, but the participation has not been extensive. Due to the high presence of elderly and immigrant populations (Pilastro), there is difficult interaction concerning technical topics, reduced access to social media and digitisation. In addition, competitiveness and privatism tendencies prevent the participation of specific stakeholder categories (e.g., entrepreneurs, companies' staff...) and lead to a lack of institutional trust (due to feeling of being left out from welfare and care policies), generating also property owner conflicts in the management and maintenance of buildings, due to the diversified ownership landscape (public-owned, cooperatives, PPPs, etc.).

Identified stakeholders

- The Green Energy Community project (GECO)
- local governance
- local development agency
- neighbourhood presidency
- SMEs
- property owners and tenants
- environmental associations
- cooperatives
- energy providers

Awareness levels currently

- mostly unaware

Awareness goal

- active

5.2 Case study 2: Natural gas-free neighbourhoods, The Netherlands

The Dutch natural gas-free neighbourhoods' program is a national initiative geared towards eliminating gas use across 27 pilot locations in the country by 2050. The pilots have received widespread media attention, resulting in a fair level of citizen awareness as to this decarbonisation strategy and the energy renovation actions that would enable it. Yet, the path towards widespread adoption of sustainable heating technologies is likely to encounter many difficulties, as it challenges established energy practices, user preferences and behaviours, as well as comfort aspects, while also requiring citizens to make partial renovation investments. As a result, novel GRETA knowledge on energy citizenship emergence and methods aimed at increasing citizen engagement in transition actions are expected to play a key role.

Identified stakeholders

- Dutch national program on natural gas-free neighbourhoods
- neighbourhood
- municipalities
- housing corporations
- tenants
- property owners
- other gas-free neighbourhoods and energy collectives
- other pilots
- district heating companies and networks
- regulatory authorities

Awareness levels currently

- fairly aware

Awareness goal

- advocacy

5.3 Case study 3: Coopérnico - Renewable energy-driven cooperative, Portugal

Coopérnico is a renewable energy cooperative with pioneering features for Portugal. Its members are generally well informed as to matters linked to sustainability, energy efficiency, and renewable energy in particular. By integrating this renewable energy cooperative, geared towards societal economic and environmental benefits, and by adopting home energy management systems, which allow them to monitor and better understand their energy behaviours, Coopérnico's citizens already take a citizenship-active approach.

Identified stakeholders

- members of Coopérnico
- other energy sustainability and democratisation NGOs

- local energy agencies
- districts and municipalities
- local energy service providers

Awareness levels currently

- active

Awareness goal

- advocacy

5.4 Case study 4: UR BEROA - Energy efficiency-driven cooperative, Spain

As part of an energy efficiency-driven cooperative slowly making its way towards decarbonisation, UR BEROA members certainly fit a class of citizens that is energy-aware, and more or less involved in the energy transition. UR BEROA is now aiming to take a significant leap forward towards the swift growth of its member base and of the energy services it already provides (to collective RES-based self-consumption and mobility). These operations will require strong collaboration with both existing and new actors (city council, service providers, retailers, and citizen associations).

Identified stakeholders

- members of the cooperation
- local city council
- service providers
- retailers
- citizen associations
- other cooperatives

Awareness levels currently

- involved

Awareness goal

- active

5.5 Case study 5: MobileCityGame - A virtual community for sustainable mobility in Karlsruhe, Germany

The MobileCityGame will provide an interactive and fun, yet comprehensive environment for citizens to virtually take the role of mobile city planners, thus gaining insights on aspects linking sustainability and mobility within a city context. Karlsruhe citizens start already partly aware and energy-interested, but by playing the MobileCityGame they are expected to gradually change their behaviour towards more

sustainable actions, based on the growing understanding of the systemic consequences of urban mobility choices and those of others.

Identified stakeholders

- general public of Karlsruhe
- organised and unorganised youth groups
- schools
- local policymakers
- decision-makers in other cities
- game-developers
- energy providers

Awareness levels currently

- partly aware

Awareness goal

- active

5.6 Case study 6: Electric autonomous and connected mobility network

Even though automated driving systems (ADS) are often approached from the road safety perspective, the adoption of electric and autonomous vehicles could be perceived as a type of energy citizenship, given the air pollution and decarbonisation benefits expected to arise from it. Recently, platforms such as CCAM, which bring together public authorities, major industry, and research organisations, have emerged with the goal of accelerating ADS, but average citizens remain largely unaware and excluded from these processes.

Identified stakeholders

- vehicle-owners/citizens
- European Cooperative, Connected and Automated Mobility (CCAM)
- EU member state authorities
- research and standardisation organisations
- European Commission
- major automated driving technology manufacturers

Awareness levels currently

- unaware

Awareness goal

- active

5.7 Weaknesses and strengths of the preliminary engagement strategies and the framework

As any research attempt trying to address complex societal issues, the GRETA framework includes both strengths and weaknesses. The former should be cherished and scaled, the latter worked on and hopefully overcome. The weaknesses will be tackled in appropriate work packages. The following are recognised as the GRETA framework's possible strengths and weaknesses.

5.7.1 Strengths

- The preliminary strategies show a good understanding of the socio-cultural context of each case study. The framework offers a structured way to deepen that understanding.
- The framework offers a shared understanding of stakeholder and case study participant engagement within the project.
- The framework can be easily modified and updated. This ensures that case studies can choose methods of engagement most suitable to their stakeholders and case study participants.

5.7.2 Weaknesses and barriers

- The framework and preliminary strategies do not offer a theoretical or methodological framework for the research done in the case studies. The indicators of awareness levels and the theoretical framework will be defined in WP1.
- The level of stakeholder and case study participant identification is not yet precise enough in the preliminary strategies. The framework aims to tackle this by offering definitions of preciseness levels.
- Each case study still needs to recognise the different levels of awareness inside their stakeholder and case study participant groups. The framework offers some tools for that, but this should be specified in WP1.
- The framework includes concepts that offer methods for stakeholder identification and engagement planning. These concepts should be complemented with discussions and close collaboration with the stakeholders and case study participants.

6 Responsibilities

GRETA's stakeholder engagement is steered by KAS and implemented by the case study leaders. GRETA has set up local CD&E desks in each case study. CD&E desks are tailored to the local socio-cultural contexts, leveraging the best and most effective tools and channels already in place to increase citizen awareness and gain stakeholder trust. Through its GRETA CD&E management role, KAS will harmonise and assure the coherence of all activities carried out locally with broader project CD&E goals.

KAS will iteratively develop and assess this stakeholder engagement framework together with the case studies and work packages. KAS will organise an internal CD&E workshop in autumn 2021. In this workshop, each case study will present its engagement plans and there will be an opportunity for peer-to-peer learning among the case studies.

7 Conclusions

The main purpose of the stakeholder engagement framework is to offer the foundational methods for identifying, mapping and segmenting GRETA's case studies' stakeholders and case study participants.

The framework describes GRETA's internal working process which includes six steps:

1. Clarifying the context
2. Identifying, mapping and segmenting stakeholders
3. Identifying, mapping and segmenting case study participants
4. Determining methods and strategies of engagement for stakeholders
5. Determining methods and strategies of engagement for case study participants
6. Reporting and following engagement

The stakeholder engagement framework is a strategic framework for a more detailed and concrete stakeholder and case study participant engagement plan. These plans will be created by GRETA's case study leaders. The plans will be iteratively assessed and updated throughout the project.

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