
# Designing a community engagement strategy

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# Executive Summary

Workpackage 8.1 of the IANOS project is dedicated to developing a community engagement strategy that can be applied in the use cases on the lighthouse islands (Ameland and Terceira) and the fellow islands (Lampedusa, Nisyros and Bora Bora). This report is the deliverable of WP8.1.

Within this report an approach to designing a community engagement strategy is formulated that is rooted in scientific research and enriched by best practices from the light house islands and fellow islands.

The report describes a general approach to designing a community engagement strategy, that consists of three parts. The first part is dedicated to assessing the situation and project that the community engagement strategy is dedicated to. It describes several factors that are rooted in literature on community engagement and psychological theories. These factors should be assessed in order to be able to design an effective community engagement strategy. The results of this assessment will be used in the second part of the general approach, which describes a method for designing a community engagement strategy. This method is rooted in community engagement literature and draws heavily on some earlier EU projects. The method describes about ten items that together constitute the strategy and that encompass all relevant issues that need to be addressed in designing community engagement. Finally, the third part of the general approach, describes the way the method and the assessment can be applied in a methodic and robust way.

Although the general method is described as a theoretically based approach, it is substantiated not only by theoretical studies, but also by many reports on practical application of various community engagement efforts. In addition to that, all participants from the islands have identified some best practices on community engagement from their own region and/or experience. These best practices are analysed according to the method of meta-analysis. The information from this meta-analysis is used to check the suitability of the general approach and leads to emphasizing those aspects of the approach that are identified as more important within the best practices.



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# Part 1: Setting the scene



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# Chapter 1: Introduction

The last decades countries and companies from all over the world have invested heavily in designing techniques that can be used to mitigate the world climate changes. Many innovations have resulted from the massive investment in research and development which are increasingly deployed, also in the European Union. We already have numerous technical solutions enabling higher efficiency in energy use and reducing emission of greenhouse gases. The results can be seen all around us in the landscape, most visible by the large amount of wind turbines and solar parks. Despite all these innovations and their deployment, we still have a long way to go to bring the worldwide climate change to a halt (Masson-Delmotte, Zhai, Pirani, Connors, Péan, Berger, Caud, Chen, Goldfarb, Gomis, Huang, Leitzell, Lonnoy, Matthews, Maycock, Waterfield, Yelekçi, Yu, & Zhou, 2021)

Although technological innovations are the driving force behind mitigating climate change, they are not sufficient to reach that goal. Increasingly it turns out that the actual deployment of viable and useful innovations is halted or at least delayed by the human agents, the energy users like ourselves. Developing new decarbonization techniques is not sufficient, we also need to develop methods to get these techniques actually used by the citizens of our countries. Climate change mitigation requires behavioural change from the people that have set the climate change into motion with their energy consumption. Deploying climate change mitigation techniques requires a sound community engagement strategy.

This report contains a methodology that can be used in designing a community engagement strategy. It is developed within the IANOS project in order to facilitate community engagement in several projects dedicated to implement renewable energy production and smart grid solutions on several EU-islands (use cases). In order to apply it and to execute its constituent steps, specific tools and techniques should be used that will best meet the ends. Which tool or technique to choose depends on several characteristics of the use case and the local situation. A list of many usable tools and techniques and when best applied, will be the subject of the consecutive phase in the IANOS project and will therefore not be included in this report.

This report is customized for the IANOS project and has some limitations that prohibit a seamless application in other situations. The limitation with the highest impact in that regard, is that it is written to be used for projects that have been designed to a reasonable level of detail. Within IANOS, this report should be usable for designing the community engagement strategy to be employed for the use cases on the islands. Those use cases are specific technical solutions, such as installing batteries, fuel cells, building a solar park or charging



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stations for electric cars (to name a few). These use cases contain a solution for a problem (e.g. installing batteries is a solution for the problem that solar energy cannot be produced at every moment it is needed and that therefore a production facility of thousands of solar panels is not able to be self-sufficient regarding energy production). But there are other solutions for this problem. The 'best' way to design community engagement is to give the citizens as much influence and control as possible (this will be elaborated on further on in the report), which would mean that the community would be challenged to find a solution. For the use cases in IANOS, there is some flexibility, but a complete change (e.g. not installing batteries, but installing several small wind turbines instead) is not possible. Also, within IANOS, the local government (municipality) is central in the project and in the community engagement strategy. The community engagement strategy will be designed from the position of the local government, it will be initiated from the local government. This report is tailored to that situation and would need some adjustments for different situations (although much of the content is totally applicable to such differing situations).

## Introduction: Reading guide

This report is divided in several parts, addressing different aspects of designing and implementing a community engagement strategy. The parts are placed in a logical order ensuring a proper understanding of the subject of community engagement, its constituent elements and the way to implement it.

To begin with, the term community engagement is clarified, which defines the subject, what it encompasses and what is outside the scope (of this report). After having clarified the concepts, a general approach to community engagement is presented that is rooted in the literature and enriched with information from an elaborate best practice review (a detailed account of the best practice review is included as an addendum).

The general approach to community engagement is divided in four main parts:

- The specification of some central and essential attributes of the approach;
- The assessment of the relevant issues and characteristics of the project and the local situation;
- The step-wise design of the actual community engagement strategy;
- Putting the strategy to work, actually implementing it.

## Introduction: What is community engagement



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This report is the outcome of Work Package 8.1 of IANOS. In the grant agreement that is formulated as: 'develop a community engagement strategy to be used to monitor and increase community engagement in the different use cases on the lighthouse islands and the fellow islands'. Before turning to that, community engagement should be defined.

## Introduction: What is a community

Community is a term that can refer to several different concepts. The theoretical thinking about communities is highly influenced by sociological consequences of societal development over time (such as the development of large cities and suburbs and the development of fast travel and the internet). This report is not suited for an in-depth discussion of this subject, but it should be clear what is meant by a community. In this report, community will be defined as a group of people living in the same place. Since IANOS addresses citizens of islands, community will be seen as the group of citizens that live on the same island. However, just geographical proximity is not sufficient to speak about a community, but it forms the basis for social networks where solidarity and bonding are characteristic and where people share identities and norms (Bradshaw, 2008). This means that the citizens of an island do not necessarily form one community, but that there can be several communities and people can be a member of multiple communities at the same time.

Within this report, all the citizens that live on an island represent the target audience of community engagement. However, as will become clear in reading the report, it will be necessary to target groups of people (communities) that are socially connected in one way or another, that share norms, opinions, identities, family ties or other things that bond them. Membership of a local energy cooperative (which could be based on underlying opinions about energy behaviour) could possibly be a bonding characteristic that defines a community.

This report is about engaging citizens to participate in the various projects dedicated to decarbonization of the islands energy use. Every individual citizen that is participating is important. Individuals are not the focus of this report, though. The focus of this report is on meaningful social groups of citizens (communities), because addressing several people at the same time is more efficient and has a greater chance of realizing a meaningful contribution. Also, by addressing groups of citizens, one can connect with the social mechanisms of influencing, learning and support which can lead to a faster growing and more lasting degree of participation and engagement.



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The task for those responsible for designing community engagement therefore is to discover relevant communities on their island that can relate to the project (use case) at hand and to build a relationship with them and get them to actively participate in the project.

## Introduction: What is engagement

Engagement can take many forms from rather superficial to very intensive. Within this report engagement and participation are mutually interchangeable terms. In the paragraph 'bottom-up or top-down' the various levels of engagement or participation are described in more detail. For now, it suffices to say that community engagement is a process of working collaboratively with and through groups of citizens and that there is no single definition of the contents and depth of the collaborative work (McCloskey, McDonald, Cook, Heurtin-Roberts, Updegrove, Sampson, Gutter, & Eder, 2011). Although this report is dedicated to designing a community engagement strategy for a specific project, it should be noted that in order to maximize community engagement and get the best results from participating citizens, community engagement should be a continuous process of collaboration and partnership between the local government (and organizations) and the citizens. Engagement should focus on delivering this continuous and permanent way of working together.

Community engagement can refer to both the process of getting the community involved as well as the actual outcome, the degree of engagement of a community (McCloskey et al., 2011). Actually, the term is used in both ways in the outcome description in the grant agreement of IANOS. In this report community engagement is regarded as the degree of engagement of the community. There are two different parts to this definition: the number of citizens that are engaged and their degree of engagement (fully/active, partially or only slightly). However, in this report a framework for designing a community engagement strategy for projects such as the use cases in IANOS, will be specified. It is therefore dedicated to specifying the process of engagement.

## Introduction: Topic of community engagement

The focus of this report is on the energy-transition domain which is the subject of the several use cases of IANOS. However, community engagement is not solely tied to the energy domain and consequently papers describing methods to increase community engagement span many other domains as well. This report is based on articles and papers from several of those domains: energy (Coy, Malekpour, Saeri, & Dargaville, 2021) (Barrenetxea,



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Gorritxategi, Iturbe, Kamenjuk, Ahas, Rathje, Bielefeldt, Hernández, Eelma, Cepeda, & Tatar, 2017)health (e.g. (National Institutes of Health, 2011) (Lavery, Tinadana, Scott, Harrington, Ramsey, Ytuarte-Nuñez, & James, 2010)education (e.g. (Henderson, 2017), business (e.g. (Belyakov, 2020) and city development (e.g. (Mazhar, Kaveh, Sarshar, Bull, & Fayez, 2017). It turns out that community engagement strategies and principles of engagement do not differ fundamentally between the various domains. The actual matter on which community engagement is pursued will be of relevance for individual citizens in deciding whether they will engage, but the methods to be used to increase community engagement on different subject matters (domains) can be transferred to the energy domain. This report is therefore based on studies and reports from several different domains.



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# Part 2: General approach



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# Chapter 2: Up-front features of the model

The approach for designing a community engagement strategy that is described in this report, consists of several 'routes' that can be taken, depending on the specific situation. Definition differences are incorporated in the model in the form of different recommendations, dependent of the actual situation. These different 'routes' are based on the features of the model that are described below.

## Up-front features: Tailor-made

Perhaps the most important recommendation for designing a successful community engagement strategy, is that it should take a tailor-made approach. There is no simple and one-size-fits-all approach that will boost citizen engagement to unprecedented levels. Significantly increasing long-lasting community engagement, requires time and effort. It requires in-depth knowledge of the local community as well as a real investment in making a (lasting) connection with the community. It also requires thoughtful planning and execution of the whole process of community engagement.

The call for a tailor-made strategy arises from many studies, a few of which will be mentioned here. In identifying a framework for evaluating the effectiveness of public engagement and community engagement within the field of health care, Jabbar and Abelson (2011) conclude that any framework should consist of domain specific information as well as situation specific details. In analyzing the factors that stimulate the emergence and development of local renewable energy organizations (a specific form of engagement), Boon and Dieperink (2014) identify several factors that are situation-specific and time-specific. Belyakov (2020) states that studying the behaviour of customers and recognizing their role is an essential part in planning actions regarding community engagement. He concludes that the implications of customer behaviour are highly variable and dependent on (local) geographical, social and economic factors. Ahmed and Palermo (2010), in a commentary on community engagement in research conclude that community engagement should fit the priorities, needs and capacities within the cultural context of communities. From their scoping review of the energy literature, Coy et al. (2021) conclude that "any aim to facilitate community empowerment needs first to be tailored to the local context". Finally,



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Ramsden and Colini (2013) conclude, in a study combining 50 EU projects, that the success of engagement design depends on a proper adaptation to socioeconomic conditions and the local governance culture.

This report is directed towards a practical, hands-on application of the model and the procedure in order to minimise the time and effort needed for designing a tailor-made strategy.

## Up-front features: Bottom-up or top-down

As a pioneer in the field of public participation, Arnstein published her participation ladder in 1969, describing several levels of participation (see (Lauria & Schively Slotterback, 2021). The basic idea that participation can vary from low to high was replicated by many authors, with varying numbers of states (rungs on a ladder). Basically the spectrum varies from no participation at all to the highest level of participation, where all decisions are made by the citizens. The general opinion is that to realize a higher degree of involvement of a community (quantitatively and qualitatively), a higher level of participation is required (see e.g. (Lauria & Schively Slotterback, 2021)(McCloskey et al., 2011) (Coy et al., 2021)

Within this report the five-level spectrum of the International Association for Public Participation (IAP2) will be used, but other schemes could be used if preferred, including Arnstein's original ladder (in (Lauria & Schively Slotterback, 2021). The IAP2 participation spectrum is depicted in figure 1 (International Association for Public Participation, 2018) Not listed in the spectrum is the level of no participation at all, which would be at the utmost left of the figure. From left to right, the degree of participation increases, from just informing the community to actually empowering it and putting the decisions in its hands. This axis parallels the top-down/bottom-up axis, where inform would be highly top-down and empower would be highly bottom-up.



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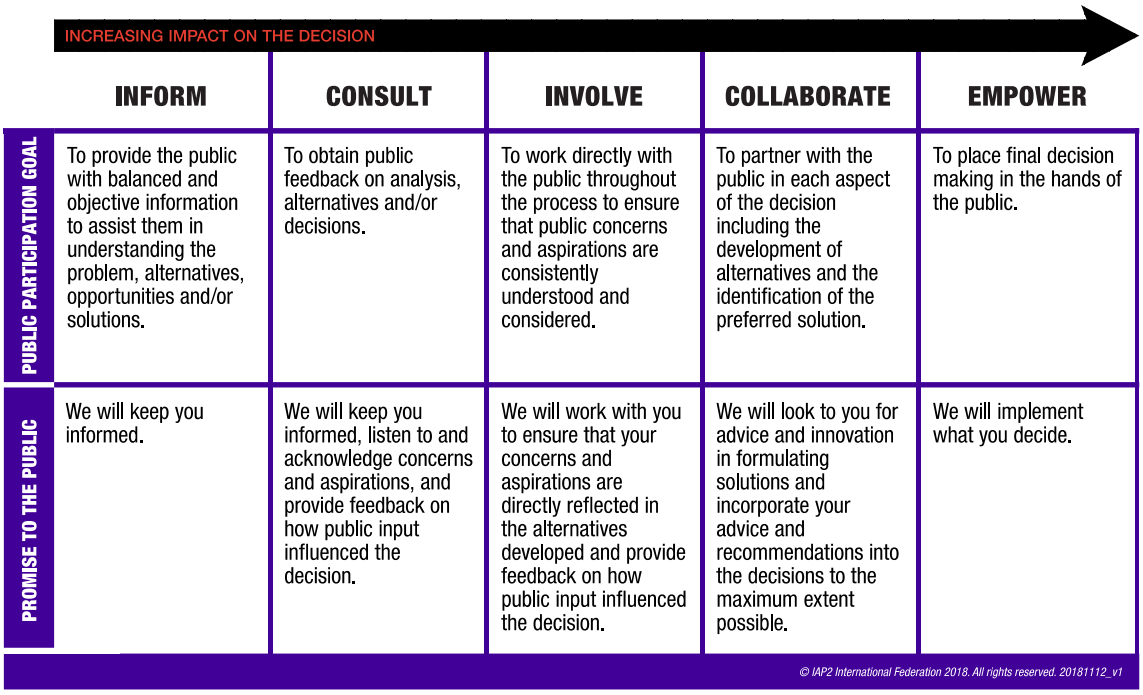
## IAP2 Spectrum of Public Participation

IAP2's Spectrum of Public Participation was designed to assist with the selection of the level of participation that defines the public's role in any public participation process. The Spectrum is used internationally, and it is found in public participation plans around the world.



INCREASING IMPACT ON THE DECISION

| | INFORM | CONSULT | INVOLVE | COLLABORATE | EMPOWER |
|---|---|---|---|---|---|
| PUBLIC PARTICIPATION GOAL | To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions. | To obtain public feedback on analysis, alternatives and/or decisions. | To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered. | To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution. | To place final decision making in the hands of the public. |
| PROMISE TO THE PUBLIC | We will keep you informed. | We will keep you informed, listen to and acknowledge concerns and aspirations, and provide feedback on how public input influenced the decision. | We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision. | We will look to you for advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible. | We will implement what you decide. |



*Figure 1: Different degree's of participation (or community engagement), as defined by the IAP (International Association for Public Participation, 2018).*

Energy transition initiatives can originate from within the community as well as from the government. Projects that are initiated by citizens or groups of citizens (bottom-up) differ on many accounts from projects that are initiated by the government or an organization (top-down) and require different actions regarding community engagement. Naturally, projects originating from within the community already have a certain degree of community engagement from the start. The best advice for a(n) (governmental) organization in this respect is, to engage with, to encourage and to multiply existing citizen-led projects or citizen-led activist movements (Haf & Robison, 2020) An example of putting this advice into practice, would be to connect to an energy cooperative (if it exists) in planning and implementing energy projects. A recent study by Galende-Sánchez and Sorman (2021) showed that community engagement projects within the climate and energy fields are (still) predominantly focused on the consult level (more than 50%) and only exceptionally on the empower level (1%).



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Many projects fall somewhere in the middle of the bottom-up to top-down continuum, encompassing both the involvement of the community in drafting the project as well as being designed and guided by a governmental agency. The IANOS project also falls somewhere in the middle. The use cases have already been specified and will have to be implemented within an island community. There is a limited amount of flexibility in adapting the use cases so there is a certain amount of bottom-up influence. In addition to that, representatives of the local community have been involved in drafting the IANOS project and use cases.
Regarding the deployment phases of the use cases, the project is initiated by the local government instead of from within the community.

## Up-front features: Individual vs. cooperatives

Community engagement and citizen engagement are often interchangeably used, although the terms contain a different focus. This difference in focus constitutes the first important feature of the model for designing a community engagement strategy.
Hoff and Gausset (2016) describe the field of possible collaborative arrangements between public agencies and citizens by distinguishing two axes, one of which describes the targeted audience. This axis represents a continuum, ranging from individual citizens to a community, i.e. a collectivity of a large number of individuals. The goal is to get people to use the decarbonization techniques that will be implemented on the IANOS islands. Focusing on groups is a more efficient approach to that end. Next to that, Zanbar and Ellison (2019) researched different personal and community factors' influence on community engagement and concluded that community factors have the strongest relation with community engagement. They also found that some personal factors are more prone to lead to engagement of an activistic nature (generally working against communal plans). It is therefore recommended to not discard individual factors and focus solely on community factors, but also involve influencing individuals in a community engagement strategy.
Within IANOS the focus regarding community engagement is on the community, i.e. on groups of citizens with a special emphasis on energy cooperatives. Therefore, the model will be elaborated more on the community end of the continuum than on the individual citizen end of the continuum. This choice seems to be supported by IANOS' focus on energy cooperatives which generally are founded and led by citizens, and by the fact that the highest level of participation can be reached by increasing the influence of citizens on a project (the 'collaborate' and 'empower' stages of the participation spectrum (International Association for Public Participation, 2018)). Joining citizen initiatives seems a powerful


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means to enable a higher level of participation, although (off course) it depends on the way an energy cooperative is actually involved in a specific project.

The focus on group or community approach has its limitations. Not everything is guided by organised groups and not all citizens are a member of one group or another, so it may be wise to also consider some focus on individual citizens, especially in order to reach those that are not integrated in any of the community groups. In addition, groups that are actually 'reached' with a community engagement strategy are generally not representative of the whole population. The rich, white, well educated and male citizens use to be over-represented, while young, non-white, female and less educated citizens are much more difficult to reach and involve (e.g. (Tonkens, 2014) (Kaphengst & Velten, 2014)

## Up-front features: Conscious decision making vs. nudging

The aim of IANOS is to deploy several use cases on the lighthouse and fellow islands and maximize community engagement for those use cases. The aim is therefore to get as large a part as possible of the islands communities involved, to get as many islanders to adapt some part of their energy behaviour to fit in with one or several use cases, thus to change their (energy) behaviour.

Community engagement therefore can be considered as a way to influence the behaviour of the citizens. Exerting influence on behavioural change can be focused on a subconscious level as well as on a conscious level. When we try to influence behaviour at a subconscious level we try to influence citizens without them being consciously aware of that influence, a process often called nudging. One of the most frequently cited examples of a nudge is the etching of the image of a housefly into the men's room urinals, which is intended to "improve the aim" (Thaler & Sunstein, 2008). Although nudging can be very effective, it certainly is not sufficient to result in the large behavioural changes that are needed for the deployment of the use cases (Van Lieren, Calabretta, & Schoormans, 2018) In addition to that, the use cases extend far beyond automatic behaviour and require deliberate decision making, because financial investments are required or physical adaptations to houses or environment will be required.

The focus within this model is therefore on conscious, deliberate decision making. Community engagement is regarded as a process that is aimed at getting citizens to deliberately decide to get involved in an energy transition project.



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## Up-front features: Relationship and trust

Community engagement requires developing relationships with individuals, groups and local organizations. These relationships are needed to be able to identify all the relevant information that is needed to design a successful community engagement strategy and to actually put the strategy into action. In order to enhance local participation, meaningful relationships between all parties involved are essential. Engaging a community cannot be realized from behind a desk in e.g. a city hall, it requires going to the community to establish relationships and build trust (National Institutes of Health, 2011)

In addition, community engagement should ideally be a long lasting process instead of a one-time execration for one specific project. It works best when relationship and trust is developed over time as a cumulative result of enduring work. Therefore, community engagement strategy for individual projects should ideally be developed and implemented with this in mind (National Institutes of Health, 2011) (Community Places, 2014) This calls for an active and engaged local government where all members of its staff need to be aware of the challenges of the energy transition and the need for this transition to be realized in collaboration with the local community (Haf & Robison, 2020).

## Up-front features: Level of detail

Over the last few decades a lot of literature has been published that is relevant for designing a community engagement strategy and still many questions remain unanswered. Within this report only part of this wealth of information is cited and still there seem to be so many variables to include in the design of a community engagement strategy that one can easily get stalled in doing that. As a ground rule one should estimate which level of detail in designing the community engagement strategy would be most useable, like using the Pareto principle. However, one of the core messages of this report is that designing an effective community engagement strategy will take time and effort, because it requires a tailor-made approach and because it requires an enduring investment in the relationship with the community. There is no quick and easy solution. That being said, one should still make a conscious choice about the level of detail to include. A few heuristics to guide this choice can be given, which of course depend on the specifics of the project that determine their applicability:

- Plan for a lasting and long term engagement and take one step at a time.



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- Identify the step with the highest or best fitting impact (regarding the different parts of the strategy design) at this moment. For example, start with the group that would make the biggest contribution.
- Ensure that the fundaments regarding the relationship with the community and the trust is developed properly. This will be the fundament needed to support all other things. If there is no real relationship yet or trust is low, start with building these aspects. This could mean that the realization of a project will take longer, but the investment will be worthwhile.
- Connect with citizen-led initiatives first. For example, if there is an energy cooperative, connect to that in designing and implementing the community engagement strategy.
- Be transparent and open in the communication with all stakeholders during all the steps of designing the strategy. Make sure that they can all provide input for all questions to be answered and choices to be made. Use the knowledge and skills of all stakeholders and the community to its fullest.



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# Chapter 3: Assessing the situation and project

In order to be able to design a community engagement strategy that fits best at the specific time and situation, the context (the specific situation) needs to be known. The most relevant parts in this regard, will be elaborated on in this part. These parts are described in two chapters: a chapter about context factors and a chapter about factors that are directly related to behaviour change (which is what one wants to achieve through community engagement).

An assessment is always made in regard to the project at hand, because the specifics of the project might be relevant and might determine the actual assessment. For example, a project about installing heat pumps in houses requires a thorough assessment of the different types of houses, of the distribution of house owners and tenants and of the age profile of the community, while this information will be less relevant for a project dedicated to installing a tidal kite.

## Contextual factors

In this chapter some factors are described that are key in designing the community engagement strategy that describe characteristics at the community level. Please note that the word ‘context’ has been used as a rough approximation.

### *Assessing contextual factors: Stakeholders*

Most important for designing a community engagement strategy is that all the relevant and concerned organizations and groups should be known: all the stakeholders need to be identified. For the sake of clarity, stakeholders within this paper are referred to as organizations, but please note that also informal groups should be included. In addition, some individual citizens can be relevant stakeholders if they have a specific role within the project or the community.

As community engagement in this report is directed at maximizing the involvement of the community in the deployment of renewable energy, obviously knowledge about the composition of the community is needed. Focusing on involving groups requires the identification of constituent groups and their relation to the use and production of the project, in the case of IANOS, on renewable energy. In addition to that, organizations that play a critical role in the deployment of renewable energy, should be identified. Special attention



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should be given to the presence of energy cooperatives or comparable community-based initiatives.

Almost every study or paper on the subject of community engagement (concerning various domains such as public health, energy transition or education) stresses building a relationship with the community, both with individual citizens and with organized groups of citizens requiring a dedicated communication strategy adjusted to the recipient (e.g. (McCloskey et al., 2011); (Barrenetxea et al., 2017) (Mikkelsen, Chalvatis, Li, Tawil-Jamault, Paravan, Barreto, Bijnens, Negreira, Karg, Watson, Miralles, Dargby, & Fikiin, 2019) (Belyakov, 2020) (Mazhar et al., 2017) (Komendantova, Riegler, & Neumueller, 2018). In order to be able to do that a concise map of all the relevant organizations and the community, is a necessary prerequisite.

It has been shown that community engagement strategies often fail to reach out to all relevant groups of citizens. Citizens that are actively participating are often members of restricted subgroups (white males, well educated, high income, 50 years up). Performing a stakeholder analysis could easily be biased by the experience with this group, therefore special attention should be given to also include hidden groups or groups that are difficult to engage or even difficult to come into contact with (Sheridan & Tobi, 2010) (McCloskey et al., 2011).

### *Assessing contextual factors: Community networks*

A logical prerequisite for engaging a community is making contact. Making contact transcends just putting out a mail or post on a website, it requires a two-way communication and openness to interact with each other. Making contact with citizens that already are somewhat involved, or at least have shown their interest in the getting involved in the subject of renewable energy, will probably be attainable. But making contact with citizens that have not been contacted before, is more difficult. In that case it will help if the contact will be facilitated by other citizens with whom they are connected and interact with. If their own community network can be used to make contact.

As was discussed earlier on, a community is regarded as a group of citizens that are socially connected in one way or another, that share norms, opinions, identities, family ties or have other things that bond them. Designing community engagement can be focused on developing such a group, i.e. facilitating a process of group formation of like-minded citizens. When facilitating the start of an energy cooperative, this is what needs to be done. Instead



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of facilitating the development of a new community, connecting with an already present community obviously is more advantageous.

Generally, that part of the community of all citizens that are easiest reachable and are first in line to participate, is quite homogeneous. That group predominantly consists of middle aged to old white males, with a higher education and a relatively high income. That is the group that will be easiest to engage and will not require too much of a dedicated communication strategy to reach and come into contact with. At places where community engagement in the energy transition has been actively promoted for several years or where community engagement has originated from within the community, e.g. through energy cooperatives or grass root action groups, these are the citizens that will be overrepresented. Citizens with a low social economic score (low income, no education) and citizens that highly distrust the government are hard to engage, even hard to come into contact with. Existing community networks can present a way to make contact with these and other citizens that generally do not respond to regular attempts to get into contact or participate.

Assessing the social network structure of the community identifies which (group of) citizens are connected with each other and leads to a representation of the social structure. From this structure subgroups can be identified of which the members are mutually firmly connected while the connections with individuals outside the group are weak. Also it can lead to the detection of citizens that have the most connections with others and are therefore very influential and citizens that perform a bridging function between separate groups within the community (Wasserman & Faust, 1994)

Assessing the networks within the local community is therefore highly recommended. It can help identify ways to reach individuals or groups that are not easily reached by regular communication and it can help identify groups or individuals that are most influential within the community.

### *Assessing contextual factors: Culture*

With culture we refer to “a system of thought and behavior shared by members of a group - a system whose pattern allows us to understand the meanings that people attach to specific facts and observations” (Graham, Kim, Clinton-Sherrod, Yaros, Richmond, Jackson, & Corbie-Smith, 2016). Culture has a pervasive effect on everyday live by influencing identities, the way individuals and groups relate to one another, the creation of meaning, the definition of power, partnership, trust and negotiation. Culture is dynamic and changing, though it has a salient historical component.



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Enhancing community engagement purports to getting citizens to consciously and deliberately choose to be involved (in the energy transition). This means that whatever way citizens will choose to do that, whatever behaviour they will realise, it must be in accordance with their cultural values. In order to design an effective community engagement strategy requires an understanding of the culture of the community (Trickett, Beehler, Deutsch, Green, Hawe, McLeroy, Miller, Rapkin, Schensul, Schulz, & Trimble, 2011)There is overlap between cultural values and individual values and social norms. The individual values of citizens are influenced by culture, as are social norms (which will be described in the chapter on behaviour changes). They do not necessarily need to coincide, though.

It is not possible to posit in advance which cultural aspects are relevant for designing community engagement in a particular situation, as it depends on various specifics of the project. Therefore, a standard assessment of relevant cultural values, cannot be given. Basically, what is needed is that one wonders whether the project as it is envisioned would 'work' within the community. Does it fit in with the community values, are the required roles and efforts in line with it, is the technology acceptance sufficient, just to name a few examples. Also, the cultural values that organize communication and decision making, are highly relevant for shaping the interaction with the community. The information on the local culture should be collected from citizens and local institutions. It requires an authentic respect for the local culture and the local community and will be best served by collaborating with (members of) the community from the very beginning of the project.

### *Assessing contextual factors: Demography*

Demographic variables can be used to make a concise representation of the community. Within this category some variables are covered that might not be considered proper demographic characteristics, but that fit in best within this category of contextual factors. Several of these variables are highly relevant for potential engagement and for making the connection between the project at hand and the community (e.g. (Coy et al., 2021) (Koirala, Araghi, Kroesen, Ghorbani, Hakvoort, & Herder, 2018) (Urban & Ščasný, 2012) (Balta-Ozkan, Yildirim, Connor, Truckell, & Hart, 2021). Among the most relevant demographic variables to describe are:

- Age
- Gender
- Education
- Income



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- House owner or tenant
- Family composition
- Type of house
- Age of house
- Type of energy use (heating/cooling and lighting)
- Vocational activity
- When other demographic information is available and relevant for the project, additional demographic variables can be assessed also (off course).

Regarding engagement, the following categories are more prone to get engaged in renewable energy projects:

- Males
- Citizens with a higher income
- Citizens with a higher education
- Citizen above the age of 40
- House owners
- Citizens that are retired

The demographic information can be used for defining the target group. When participation in projects, from within the community, is nihil and the process of community engagement is in its beginnings, then this information can be used to reach out to those groups of citizens that present the highest level of expected success (the groups described above). When participation from within the community already is taking shape, this information can be used to reach out to those citizens that almost certainly will be underrepresented in participation. In addition, the information can be used in advance to ensure that the process of participation will be inclusive and emancipated and will be used to create an inclusive and fair society. From that point of view, it would advisable to, in advance, pay special attention to engaging women and citizens with a low income and low or no education.
Finally, the demographic information can be used for the design of the communication (e.g. by taking account of the educational background of groups of citizens).

### *Assessing contextual factors: Legislation*

Any project is sooner or later bound to deal with laws, rules and regulations, which is taken together under the title of ‘legislation’ in this report. Legislation consists of several levels,



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from international/European, through national, regional and finally local. Generally legislation at higher' levels (e.g. European legislation or international treaties) overrules that at lower levels. In practice, participation is predominantly focused on the local level, often leading to the participation paradox. This paradox refers to the situation where citizens would like their participation to be directed at choices that have been set higher in the legislative hierarchy (national, European), while they can only participate at a local level, where those choices are non-negotiable and the participation is limited to the deployment at the local level (Perlaviciute & Squintani, 2020).

Legislation naturally has an impact on any project on renewable energy or pro-environmental behaviour. That impact can have consequences on many different aspects, e.g. on technical issues, safety issues, financial issues, collaboration issues or formal decision making issues. Legislation can serve as a contextual factor hindering some part of the application of a project or of community participation, but it can also serve as a means to stimulate and facilitate community engagement (e.g. (Coy et al., 2021) (European innovation partnership on smart cities and communities, 2013) (Jelić, Batić, Tomašević, Barney, Polatidis, Crosbie, Abi Ghanem, Short, & Pillai, 2020) (Kaphengst & Velten, 2014) (Boon & Dieperink, 2014) (Perlaviciute & Squintani, 2020)

Assessing the relevant legislation mainly serves to check the practicability of the project. This in turn, however, can have a massive influence on the motivation of citizens in the course of the project. For example, a project that is aimed at building a solar field and engages the community to take part and invest, will experience withdrawal from citizens when they have to wait years for the license to build the field. Or citizens will withdraw from a project aimed at collective insulation of houses when it turns out that this can lead to fines when the local government must first inspect their house on other (bureaucratic and not insulation-relevant) issues.

All the steps that will be taken in the implementation of the project, both regarding its physical realisation and regarding the community engagement actions that will be taken, should be made explicit. This generally requires the collaboration of several local and/or regional experts from different domains (such as technical, financial, and legal). For higher levels of participation (especially for collaboration and empowerment) this can only partly be done at the outset of the project, because participation will shape the project. For all the steps identified, relevant legislation and the bureaucratic actions that will be needed in its implementation, should be assessed. Hindrances should be solved either before starting the proces of community engagement or at least in such a way that they do not interfere with (time) planning. In addition, possible means of facilitating the process should be



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assessed and when identified should be effected. If legislative hindrances cannot be solved (in time), then this calls for an adaptation of the community engagement strategy in such a way that the hindrances will no longer be present or will be bypassed. Eventually it could even lead to delay or cancelation of the project and community engagement.
If participation leads to changes during the project (in case of collaboration or empowerment), the assessment of legislation should be verified at every moment that additional choices have been made that affect the implementation.

### *Assessing contextual factors: State and stage of energy transition*

Energy transition is multi-faceted, complex and extensive in both time and actions. Constituent actions can also be complex and extensive, let alone the whole process of migration to fully renewable energy use. The transition process therefore takes (a long) time to be executed and can take many different forms and routes to reach the eventual goal. In which stage of the energy transition a local community (in the case of IANOS, an island) is located, is relevant for the next steps to be taken and therefore also for the design of the community engagement strategy. The further the energy transition is advanced, the more citizens will have participated in one way or another, the more the transition will be visible, the more knowledge there will be within the community, the more people will talk about it and so on. Many of the factors that are relevant for the assessment of the situation and the project, are influenced by the stage of the energy transition. In that regard, any influence the stage exerts should come forward in the results from the assessment of the individual factors and thus it would not need to be assessed on its own. However, reflecting on how far the transition is advanced, can be useful to set achievable goals and to attain a realistic perspective on community engagement.
Community engagement should be seen as a long term process, transcending individual projects. Expecting massive engagement from all major social groups when only just starting community engagement in energy transition, is bound to lead to unrealistic targets and impractical actions (which will turn into reverse effects). From that point of view, assessing the current moment within the long term plans, is advisable.
Regarding the participation of citizens, the diffusion of innovation theory of Rogers (in (Sahin, 2006), is relevant. Rogers states that people can be divided in several groups, depending on the rate with which citizens adopt innovations (from innovators, through early adopters, early majority, late majority to laggards). When community engagement and the energy transition is only just starting, it can be expected that mainly the innovators and early


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adopters will be engaged. When community engagement and the energy transition has been worked on for many years, probably only the late majority and laggards are still to be engaged. The essence of this division is that each group requires a different approach to be engaged.

Energy cooperatives (can) play a special role in the energy transition and in the dispersal of renewable energy use and production. In order to profit from that, however, an energy cooperative has to be present. It matters whether many projects on renewable energy have already been performed on an island, initiated or supported by local, citizen led initiatives or whether basically the whole transition is still at its starting point and there are no citizen initiatives.

The state of the energy transition defines what is attainable in the next step. The energy infrastructure (production, transmission, storage, distribution) determines which projects are viable. IANOS consists of two main transition tracks, and for every island the actual use cases attainable within these tracks, differ, partly as a consequence of the current state of the transition. This goes for community engagement as well.

So, identifying the state and stage of the energy transition mainly serves to provide a reference point and should lead to improving the attainability of the goals to be set. In addition it can be used in the identification of the target group of the community engagement strategy.

## Changing behaviour

This chapter is about what is needed for behaviour change to occur. Getting people involved, getting a community engaged, requires behaviour change of individual citizens. It is therefore relevant to use knowledge on behaviour change and to assess those factors that are relevant in that regard. Those factors are not easily assessed, however. It would require some lengthy survey to be filled in by every member of the community, to get a clear and complete picture, an approach that is clearly not viable. However, that does not mean that a usable assessment is impossible. The important thing is to get a rough and overall picture of all the factors that possibly hinder active engagement or that can possibly facilitate active engagement. As psychological factors are key in shaping behaviour, it would be a terrible omission to not take them into consideration because they are hard to measure. The most practical approach would be to estimate whether the below mentioned factors could play a determinative role in community engagement within the situation and project at hand. That would mean that every factor should be considered and it should be estimated from



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information about previous community engagement projects and from some interviews with stakeholders and some representatives of the community. As was mentioned earlier, community engagement should preferably not be a one-time exercise, but should be a lasting cooperation with the community. In that case information on many issues (also contextual factors) will gradually build up over time and an assessment of the factors that influence behaviour change will prove to be quite feasable.

Some factors within the changing behaviour domain, are hard to influence or change. If the expectation is that a factor that is hindering active engagement cannot reasonably be expected to be changed, then the assessment can be used to identify in how far engagement is realisable, so to identify the maximally possible result.

The factors that are listed in the next paragraphs are derived from several theories, mainly the theory of planned behaviour (Ajzen, 1991)and many specific studies that were performed regarding its application in and adaptation for sustainable behaviour (e.g. (Van Valkengoed & Steg, 2019) (Ateş, 2020) (Conradie, De Ruyck, Saldien, & Ponnet, 2021) (De Leeuw, Valois, Ajzen, & Schmidt, 2015) (Klöckner, 2013) (Planlocal, 2013a) (Wiekens, 2012) The factors are depicted in the graphical model in figure 2.

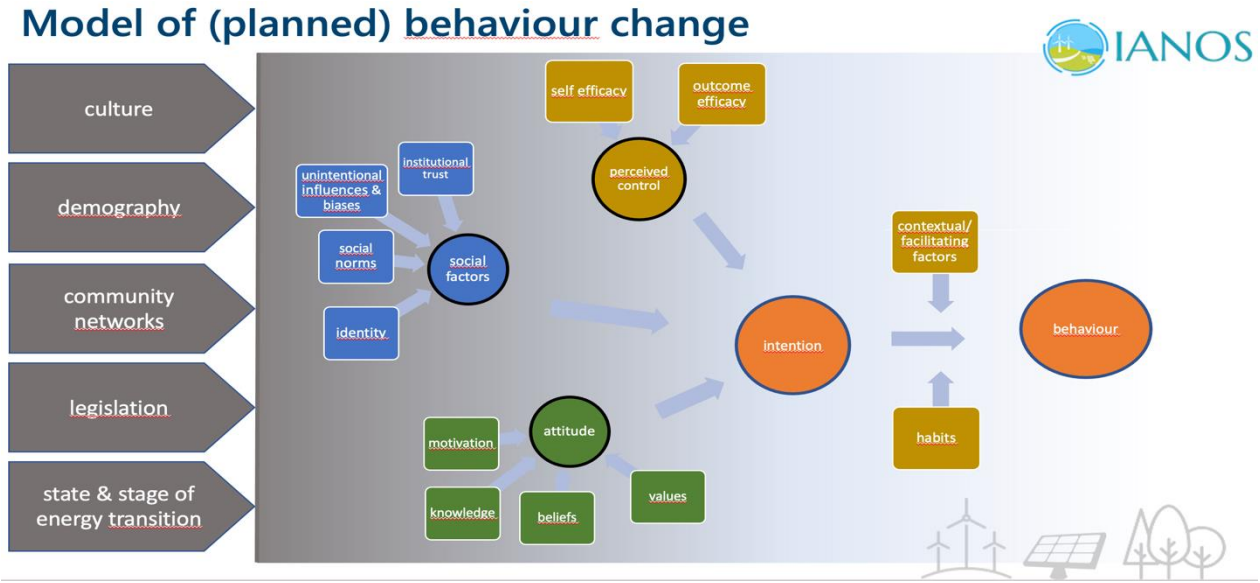


*Figure 2: a schematical representation of the factors influencing behaviour change.*

Basically the model states that behaviour originates from the intention to do so, which is influenced by habits and contextual/facilitating factors. Without the intention to behave, the behaviour will not be elicited. With the intention, behaviour can be elicited, but can also be inhibited due to habits and contextual factors. The intention to behave in it's turn, depends on the attitude towards the behaviour, several social factors and on perceived control, each



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of which in turn is made up of several other factors. All the depicted factors will be shortly discussed in the next paragraphs.

### *Assessing behaviour change: Intention*

As stated earlier, the focus is on conscious, deliberate decision making, at conscious behaviour. For conscious behaviour to occur, a person needs to consciously form the intention to elicit that behaviour (e.g. (Bamberg & Möser, 2007) (Fornara, Pattitoni, Mura, & Strazzera, 2016) If the goal is to get a citizen to participate, to get engaged in a project, then that citizen needs to deliberately decide to do so. If, for example, engagement consists of participating in a large scale isolation project then this requires the citizen to deliberately decide to also isolate his house. For a specific project, citizens intentions can vary in advance, from having no specific intentions at all to having intentions against the behaviour that is the topic of the project. Deploying a community engagement strategy is aimed at influencing citizens intention towards the targeted behaviour, which is easier when they have no intentions in advance than when they have intentions against the targeted behaviour (which should change in that case).

Intentions can be easily assessed, due to their conscious and deliberate nature. Generally asking whether someone is willing (intending) to participate suffices to assess the intention. The starting point for the assessment would thus be to get this information from asking several key persons and organizations which part of the community has a positive intention, which part a negative intention and which part no deliberate intention at all. If most (or all) citizens have a positive intention, i.e. intend to participate, then there is no problem and there is no urgent need to assess the underlying factors (although it could come in handy for the design of the communication). If a proportion of the community does not have a positive intention, then it would be useful to know which other characteristics define that group (e.g. age, gender, tenant or owner, etc.).

### *Assessing behaviour change: Intention - Attitude*

One factor that determines the intention for behaviour, is what is called attitude towards that behaviour, which has also been shown to be relevant for pro-environmental behaviour (e.g. (Conradie et al., 2021) (Liobikienė & Minelgaitė, 2021) (Ateş, 2020) The attitude reflects someone's opinions on and evaluation of the consequences of the behaviour. This means



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that in order to have a positive attitude towards certain behaviour, a person should have a belief about that behaviour and that he should positively appreciate that belief. There are four important factors that shape people's attitudes: beliefs, value's, knowledge and motivation.

### *Assessing behaviour change: Intention - Beliefs*

Belief is the first factor that makes up the eventual attitude (Ajzen, 1991) (Price, Walker, & Boschetti, 2014) Beliefs are subjective opinions, e.g. on participation. Beliefs can be very strong opinions that prove to be hard to change. Although providing objective information regarding specific behaviour is a factor in influencing beliefs, factors such as the trustworthiness of the information source, the timing of the presentation of the information and the way it is framed, are equally important (Planlocal, 2013) (Corner, 2012) Beliefs, even when factually incorrect, can easily disrupt a community engagement strategy and lead to its failure (e.g. (Colvin, Witt, & Lacey, 2016). As beliefs are an important contributor to attitude, it is important to prevent that factually incorrect beliefs are formed. This underlines the need for correct and timely information dispersal, such that all members of the community will gather the correct knowledge on a subject. Even then a factual incorrect belief can be formed, but chances that it occurs are lower.

Assessing beliefs about a project and about participation is therefore an important step. These beliefs can be assessed by specifically asking for it (e.g. at several key persons in the community). In order to generate or change beliefs, the design of the communication with the community is of key importance. In addition to that, knowing the potential impact of beliefs on actually realizing community engagement (or any other behaviour) should provide an urge to carefully provide the community with the right knowledge and information (see also (Jager, 2006). In addition to that, beliefs are formed as new information is integrated with knowledge we already possess about the world. The general worldview is therefore of influence in making beliefs. For that reason, it is relevant to get a feel of the general worldview of members of the community and their general opinion about environmental problems, climate change and the like. People that believe that the climate is not really changing or that climate is not changing because of human activity, are more prone to create new beliefs that will counteract the community engagement efforts.



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## *Assessing behaviour change: Intention – Knowledge*

The knowledge people possess that is relevant for the pro-environmental behaviour that is intended to change, is also an aspect that is relevant in forming an intention to change. However, the majority of studies have recognized that knowledge is not an important facilitator of behaviour change (Steg, Perlaviciute, & Van Der Werff, 2015)In addition, a difference should be made between system knowledge (knowledge about sustainability for example) and action-related knowledge (knowledge about the effectiveness of specific behaviour), making it hard to correctly assess. Vainio, Pulkka, Paloniemi, Varho & Tapio (2020) conclude that "while knowledge might be a precondition for sustainable energy behaviour, it may not be a strong enough facilitator of the behaviour by itself (pp. 3).
It is therefore advisable to either not make an assessment of the relevant (system and action-related) knowledge, or to only perform it quickly and with little detail.

## *Assessing behaviour change: Intention - Value's*

Value's appear to be a very central factor in shaping behavioural intentions, which has also been extensively researched in regard to pro-environmental behaviour (e.g. (De Groot, J. I. M. & Steg, 2008) (Bouman & Steg, 2020) (Bouman, van der Werff, Perlaviciute, & Steg, 2021) Values can be seen as organizing principles of what we think is desirable, important and worth striving for. They can be seen as universally desirable life goals that transcend specific situations and are relatively stable over time. Regarding pro-environmental behaviour, there are four types of values that are important:

- Biospheric values (which relate to caring about the environment)
- Altruistic values (which relate to caring about others)
- Egoistic values (which relate to caring about oneself and ones personal resources)
- Hedonic values (which relate to caring about pleasure and comfort)

Sometimes these are classified in self-transcending values (biospheric and altruistic) and self-enhancing values (egoistic and hedonic).
Enhancing community engagement in the IANOS use cases, i.e. enhancing pro-environmental behaviour, will be easiest for people for whom biospheric and altruistic values are most important (as this leads to mitigation of environmental and societal problems) and hardest for people for whom egoistic and hedonic values are most important (as this comes with costs and burdens).



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Since values are relatively stable over (life) time, designing a community engagement strategy aimed at changing the values of citizens in order to get them involved in a project, would be an idle action. However, getting a picture of the values that are important for (subgroups) of the community is very useful for the design of the communication and information dispersal (with different groups). Information and communication can be shaped in such a way that it optimally connects to specific values. Naturally it is easiest for biospheric values, which requires explicating the positive effects for the environment and nature of participating in a project. This would increase the likelihood of biospheric citizens to participate. Similarly, explicating the positive effect for the community or society of a project, would increase the likelihood of altruistic citizens to participate. The same goes for egoistic and hedonic effects. Information about values can be used to differentiate communications between sub-groups, in order to convince all groups of the usefulness of engagement (e.g. stressing the positive effects on nature for one group and stressing the financially positive effect for another group). However, a warning should be made that for example persuading egoistic citizens into pro-environmental behaviour by illuminating personal financial benefits, will not lead to more and other pro-environmental behaviour (in addition to the engagement) and can even lead to unwanted behaviour when the benefits are no longer there or turn out to be disappointing (Corner, Markowitz, & Pidgeon, 2014)
In addition, knowing the value profiles within the community can also serve to set a feasible target for community engagement. When a large proportion of a community mostly appreciates egoistic and hedonic values, it can be expected that the community engagement strategy wil have only a limited succes, since those citizens likely will not participate (at least not because of the favourable affects for the environment).
Although interviews with a limited number of key persons and citizens can provide a rough picture of which values seem to be most important within (parts of) the community, a more elaborate survey (Bouman, Steg, & Kiers, 2018)would be needed for a reliable picture.

### *Assessing behaviour change: Intention - Motivation*

A final factor to be presented in regard to attitude, is motivation. People can have certain beliefs, but the beliefs have to be important for them to lead to a specific attitude. Motivation to be willing to change behaviour is necessary for an attitude to develop and to lead to an intention to change behaviour as is required for getting engaged (Brink & Wamsler, 2019) (Coy et al., 2021) (Mazhar et al., 2017) Motivation is perhaps not solely attributable to attitude formation and therefore could also be linked to other parts of the behaviour change



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scheme. Notwithstanding that, assessing the motivation within a community to change behaviour is relevant for designing a community engagement strategy. If motivation is largely absent, then action is needed to influence that.

### *Assessing behaviour change: Intention - Perceived control*

In order for people to change their behaviour, they have to have the opinion that what they do, matters. That their behaviour has a significant consequence. They have to have the perception of control. This factor is called efficacy. Two different kinds of efficacy are relevant for the purpose of designing a community engagement strategy: self efficacy and outcome efficacy.

### *Assessing behaviour change: Intention - Self efficacy*

The first determinant of the perception of control over one's behaviour is called self-efficacy (Bandura, 1997)Self-efficacy is personal judgment of how well or poorly a person is able to cope with a given situation based on the skills he has and the circumstances he faces. Basically it means that someone has to belief that he has control over his own behaviour, that he has the skills to behave differently, in order to change his behaviour. Self efficacy is a factor that contributes to the intention to perform (change) behaviour, also in the context of community engagement (Coy et al., 2021) (Vainio et al., 2020) (Heald, 2017)
Related to this concept is the perception that a group can exert control, which is often called group efficacy. It has been shown that pro-environmental behaviour is dependent on self efficacy (Van Valkengoed & Steg, 2019)In order to persuade citizens to get engaged and participate in a renewable energy project, they need to have the perception that they can exert influence on their engagement, they have to have sufficient self efficacy. Self efficacy is a perception of the individual citizen, which means that in principle it can be influenced without needing actually changing capabilities, but the possible influence seems limited.

### *Assessing behaviour change: Intention - Outcome efficacy*

With outcome efficacy, the perception that someone can realize a specific result due to his own behaviour, is meant. In relation to the energy transition, it means e.g. that someone believes that his own actions, such as e.g. installing solar panels, exerts an effect on global warming. While self efficacy is related to the perceived control on ones own behaviour,



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outcome efficacy is related to the perceived control on the outcomes of behavior. Basically this means whether citizens think their contribution to climate change mitigation has any effect. Pro-environmental behaviour depends on a positive outcome efficacy (Van Valkengoed & Steg, 2019) (Vainio et al., 2020)

### *Assessing behaviour change: Intention - Social factors*

Being social creatures, the behaviour of humans is highly influenced by others around them. In order to generate an intention to perform certain (pro-environmental) behaviour, people have to have the idea that that behaviour is in line with what others around them think and do. This influence of the social environment has a multitude of relevant variables, of which the most relevant for designing a community engagement strategy will be described below.

### *Assessing behaviour change: Intention - Trust*

Trust refers to the perception of people that others people are acting in a mutually beneficial manner based on mutually shared social norms. People can have trust in other people (social trust) but also in institutions (institutional trust). Trust is a factor that contributes to an intention to behave. If someone's attitude and efficacy both support the intention to behave, but he does not trust that others will behave in a similar manner, he will probably not intend to perform the behaviour. In terms of community engagement, if a citizen's attitude is in line with participating in a certain project and he thinks that he can participate and that it will help realizing CO2 emission, but thinks hat others will not join him in the participation, he will not intend to participate. Trust has been shown to be a contributing factor for pro-environmental behaviour (Smith & Mayer, 2018) (Liu, Bouman, Perlaviciute, & Steg, 2020) (Koirala et al., 2018) (Alvial-Palavicino, Garrido-Echeverría, Jiménez-Estévez, Reyes, & Palma-Behnke, 2011) (Kalkbrenner & Roosen, 2016) Trust is a factor that is highly variable. Based on experience and on explicit information, trust can increase or decrease. It has been shown that trust is influenced by repetitious messages in the (social) media and that negative messages exert a larger influence (in decreasing trust) than positive messages (in increasing trust). Assessing whether there is social trust within a community (regarding the pro-environmental participation behaviour) provides information about the likelihood of participating, and, in case of insufficient trust, identifies necessary actions to be taken.



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## *Assessing behaviour change: Intention - Social norms*

People have a strong tendency to behave in a way that they believe is expected by the ones around them, in way that they believe is socially accepted. What they believe is socially accepted is called a social norm. Social norms are (usually) not explicated or written down, but are inferred. Two possible ways in which people infer social norms is by looking at the behaviour of others (descriptive norms) and by aggregating explicit communication from others about acceptable behaviour (injunctive norms). The essence is that people derive a normative standard from information and behaviour of their social environment, which they use to decide on how to behave themselves. Regarding community engagement, apart from attitude and efficacy, if citizens believe that participation is undesirable (e.g. because relevant others say so or no relevant other participates), then it is highly unlikely that they will get engaged.

Social norms have been shown to be relevant in pro-environmental behaviour and community engagement in numerous studies (e.g. (Van Valkengoed & Steg, 2019) (Dwyer, Maki, & Rothman, 2015) (Bonan, Cattaneo, D'adda, & Tavoni, 2020) (Fornara et al., 2016) (Bamberg & Möser, 2007) (Ateş, 2020)

Social norms can be variable - some exist for decades, some change quickly. In regard to community engagement, assessing social norms is important, but also difficult. Inferring which social norms exist in a community can be done by specifically asking for it (and concurrently observing actual behaviour). However, asking which social norms exist will generally not provide much information, so more specific questions are required. In case of finding out whether participating conforms to the social norms, it could best be asked straightforwardly. Mind though, that being nice and friendly could also be a social norm preventing an honest answer.

Social norms can relatively easily be influenced by communication. Simply stating that several fellow citizens participate or stating that several fellow citizens highly appreciate participation, will lead others to infer that participating is the social norm. As such social norms can be put to use in the community engagement strategy and, when ignored in the assessment and design of the strategy, present a major possible hindrance.



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*Assessing behaviour change: Intention - Identity*

People have some kind of image of themselves that is rooted in the values that are important to them, which is called their identity. As stated, identity has a firm and direct link with values. Identity has a social aspect, it defines a (virtual) group one wishes to belong to and therefore is often called social identity. Identity not only drives behaviour, behaviour also shapes the identity. Identity (especially an environmental friendly identity) is a driver of pro-environmental behaviour (Barbarossa, De Pelsmacker, & Moons, 2017) (Fielding, Hornsey, Thai, & Toh, 2020) (Fielding & Hornsey, 2016)

With their sense of their identity, people group themselves with others that share their beliefs and values and behave like them. In short, they see themselves as member of a group of similar people.

As identity drives behaviour, it can also be used to promote pro-environmental behaviour. When people feel they share an identity with others, they value the opinions of those with the same identity (in-group), higher than the opinions of others, they are more susceptible to influence by alikes. Also, when people feel they belong to a group with a shared identity, then they are susceptible to performing behaviour that is tied to that group. For example, when tying someone's identity to a pro-environmental group, then the person will be more likely to perform pro-environmental behaviour even if he did not perform that before. In addition, by stressing and exaggerating the pro-environmental norms in such a group, pro-environmental behaviour can be strengthened further.

The danger (and possibly counter-effective result regarding pro-environmental behaviour) of focusing on identity and the similarities and differences of groups within the community, could be that the community will get divided and that groups increasingly will contrast. Increasing pro-environmental behaviour within one group could lead to decreasing pro-environmental behaviour in the other. This can be tackled by forging a superordinate identity that overarches underlying identities, forming a larger group while retaining the subgroups. For example, an environmental friendly group on an island and a non-environmental friendly group could come to identify with each other when both are seen as a group of islanders that are distinct from mainlanders and both favour island-friendly behaviour.

Identity can help to get citizens to engage in a project, by putting the above mentioned means of influencing behaviour, into action. On the other hand, when citizens perceive that their identity does not fit in with participating (even when other factors like attitude and perceived control, does), they will not come to an intention to behave, an intention to participate. It is therefore important to assess which identities are present within the



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community and how these identities relate to the behaviour that is intended (participating in a specific project). Probably, there will be coherence between identities and community networks, as people with a shared identity are more likely to get together and interact with each other.

### *Assessing behaviour change: Contextual/facilitating factors*

For an intention to lead to actually performing behaviour, a prerequisite is that the behaviour can actually be performed. An intention to participate in for example installing solar panels on the roofs one's own house can only lead to participation if a citizen has a roof at his disposal. The number of contextual factors that can either facilitate or hinder the conversion of an intention into actual behaviour, can be numerous and can hardly be specified exhaustively. However, as an approximate guideline, some categories can be given that should be taken into account that are specifically related to participation behaviour for community energy or community engagement (inspired by (Brummer, 2018)(Ruggiero, Busch, Hansen, & Isakovic, 2021)

- Legal factors (e.g. are citizens allowed to do what the projects requests)
- Economic factors/financial resources (e.g. do citizens have the money to participate)
- Physical (hardware) resources (e.g. does the housing situation of citizens comply with the demands)
- Professional expertise (e.g. is professional expertise or craftsmanship available)
- Energy market and energy grid structure (e.g. can energy be transmitted over the grid and is that allowed)
- Time (availability) and opportunity (e.g. do citizens have the time available that is needed)

The above mentioned categories are just meant to provide some examples of possible relevant factors. What should be done in order to assess contextual/facilitating factors is that the actual behaviour that is requested from the citizens, should be envisioned. Next, all resources that are needed to be able to perform the behaviour should be identified and for each of them it should be assessed whether it could hinder or facilitate the behaviour being performed. Finally, the same should be done regarding external conditions for the behaviour.



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*Assessing behaviour change: Habits*

Many kinds of behaviour are exerted daily or even multiple times each day. People tend to repeat behaviour and in time move from deliberately and consciously choosing how to behave to habitually repeating what they did before. A large part of behaviour can be seen as a matter of habits. Habits stand in the way of conscious, deliberate behaviour, guided by things like attitudes or social identity. Habits can also be conscious and deliberate. People can be very conservative to (behaviour) changes, consciously sticking with 'the way we always do it'.

Habits are an important factor in shaping pro-environmental behaviour (e.g. (Lee, Kang, Song, & Kang, 2020) (Webb, Soutar, Gagné, Mazzarol, & Boeing, 2021) (Pierce, Schiano, & Paulos, 2010)

Assessing hindering habits should be done in relation to the specifics of the project. It requires predicting the future pro-environmental behaviour and consequently identifying whether there are behaviours that could (and will) habitually override the requested behaviour. Habits can have an important impact in (preventing) participating in a project, but this is mostly limited to day-to-day behaviour and not to the conscious decision making on whether or not to participate. So, it will probably be irrelevant for a project that is directed at getting citizens to participate in financing the investment of a solar field (from which they will receive their electricity then). But for a project directed at getting citizens to separate their waste and deliver their organic waste to a biodigester, habits could be a problem for actually delivering organic waste.



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# Chapter 4: Designing the strategy

As will be clear from the foregoing chapters, designing a community engagement strategy is complex and its effectiveness is dependent on a large amount of variables. Within this part a framework describing the essential elements of such a strategy, is described. That framework is mostly based on the citizen engagement strategy and deployment plan that was developed within the SmartenCity EU project (Barrenetxea et al., 2017)Additional practically oriented approaches that have been incorporated  partly (or that are in line with the approach of Barrenetxea et al. (2017)) are from Planlocal (2013c)(2013b), Mikkelsen et al. (2019), Community Places (2014) Herefordshire Council (2015) DAFNI (2020), Centre for sustainable energy (n.d.a) (n.d.b)Eurocities (2020), Engage (2013), National Institutes of Health (2011), Sheridan and Tobi (2010), Haf and Robison (2020), Alvial-Palavicino et al. (2011), Lavery et al. (2010), ITF Waste Workgroup EPA (2017)and Corner (2012).

## Designing the strategy: Base

Designing the community engagement strategy starts with assessing the situation and the project, as was described in the foregoing part. The information that is gathered in that way, will be needed into the next stage of actually designing the strategy. The base for starting to design a strategy therefore, is to make a proper assessment of the situation. In addition, the issues described within the section about the up-front features of the model, should be considered and a position on some issues should be taken.

Specifically, this means that at least the following information and/or choices should be available at the outset:

- The specifics of the project should be clear (what is it about).
- To which degree can the project be shaped by citizens, i.e. how much bottom-up influence is possible?
- Is there a local energy initiative present, an energy cooperative?
- Is community engagement already realized in earlier projects? Has a cooperating relationship been built with the community and has trust developed to a certain degree?

## Designing the strategy: Why



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As a start of designing a community engagement strategy, the overall goal of the project for which community engagement is wanted, should be clear. Hereby the ultimate goal is meant. The overall goal can be manyfold, e.g. CO2 reduction or enhancing social coherence. Specifying the purpose of the community engagement strategy is relevant in order to connect to the most basic fundament of conscious behaviour and conscious decision making: the need to provide meaning to ones live and actions. This is consistent with the general advice of Sinek (2011) to start with the why when pursuing to inspire people make specific choices or change their behaviour. Meaning is related to the values that are most important to individuals and a clear specification of the purpose of the community engagement strategy provides the opportunity for citizens to relate to their most important values and to elicit specific value-driven behaviour. When the overall goal is to reduce CO2 emission in order to reduce climate change, people that are highly biospherically oriented, probably can identify themselves with it and are more likely to participate.

The purpose of the strategy can consist of several parts, i.e. it can specify different aspects of one general purpose. For example, it can be both the aim of reducing CO2 emission as well as strengthening the local coherence and identity. Actually, it is recommended to try to enlighten the purpose from different angles. Based on her research, Wiekens (2019) states that almost everybody supports the aim for a sustainable society and that almost everybody is willing to invest in realizing it. Every citizen has his own frame of reference as to what sustainability means and what is important for him in that respect (e.g. for one citizen it could be preventing rising sea levels and for someone else it could be preventing unhealthy living conditions). It is therefore expedient to phrase the purpose of the strategy in such a way that many people can relate to that from their own frame of meaning. The inventory of the cultural context and of the value-profiles will probably provide some information that can be used in formulating the purpose.

As IANOS is about island communities, probably some relevant aspects of the culture will be related to the island identity. In specifying the purpose of the community engagement strategy, it would be advisable to pay specific attention to that.

In specifying the purpose, also the need for community engagement should be specified. It should justify the investment into enhancing community engagement and it should inform the community that their involvement is indispensable and why that is the case.

## Designing the strategy: Aim/Goal

In addition to specifying the purpose of the project, a more specific and concrete goal should be stated. Generally this constitutes the short-term goal that will be a step towards the



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ultimate purpose. Specifying the concrete goal is an important step necessary for filling in the next steps in designing the strategy.

The level of specificity with which the concrete goal can be described depends on the project. The more the project is elaborated, i.e. the more decisions about the project have been made, the better the concrete goal can be described, but also the lower the level of intended or realizable participation is possible. So when a project has not been worked out in any detail, except for having stated the purpose, the specific goal cannot be described yet because it will be the result of the process of community engagement where the community will participate in deriving the way to realize the purpose.

Specifying the concrete goal is an important step in being transparent to the community and will enhance the effectiveness of the community engagement efforts.

In specifying the concrete goal also lies the opportunity to connect to some of the issues regarding behaviour change. When outcome efficacy is a problem or when certain beliefs stand in the way to act, providing information on the concrete goal and how it will contribute to the overall purpose, can help overcome the problems. Also, it can be used to make the community more knowledgeable regarding the effects of the concrete goal. Describing the concrete goal in itself generally will not suffice, but a more elaborate substantiation will be required.

## Designing the strategy: Target group

A crucial part in the design of a community engagement strategy consists of specifying the target group. The better the fit between the target group and the project, the higher the chance that the target group will participate, will get engaged. If the process of enhancing community engagement is designed with all citizens in mind, then the communication and interventions will be too general to influence many people. Citizens differ on many aspects and cannot be treated as a single, coherent group. Their situations differ, their attitudes differ, their social network differ etcetera, therefore they cannot be persuaded to engage by a single strategy. It is therefore necessary to identify the specific group that is targeted by the project - or the specific groups, for there can be several target groups.

In specifying the target group, many elements from the assessment of the situation and the project come together. The information that was gathered by assessing the contextual factors thus is used to identify the target group. To begin with, information from the stakeholder analysis and the community network analysis is needed. This will provide information regarding the subgroups or communities that are present including a description of the importance of the project for them. Together with information about the demography



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(and perhaps from the state and stage of the energy transition), this will define the groups for which the project is potentially interesting and whose participation is wanted and whose participating is attainable. The factors described under 'changing behavior' can specifically be used to estimate the attainability of the participation. If the estimation is that the target group that was intended probably will have difficulty participating e.g. because of low outcome efficacy and counter effective social norms, then perhaps the target group is not the best fit to the project and could be changed. At least this means that the identified hindrances should be specifically addressed in the strategy (at least in the communication). In defining the target group also the maximum number of citizens that possibly can be engaged, will be known.

Information gathered on factors regarding changing behaviour, could be used to further specify the target group and to design the way the interaction with the target group will be realized. For example, citizens with a specific value profile could be identified as being most prone to participate because the project fits in well with that value profile and could therefore be specifically targeted.

The target group shapes several other aspects of the community engagement strategy, such as the communication channels used, the communication itself or the specification of the key actors and their roles.

A special word of caution is given for some groups that are not easily reached and that have the lowest levels of participation. To begin with, those people that have low trust in the government and community institutions, are likely to let opportunities to participate pass. Also people with a low income and a low level of education (often this group also has additional (mental) health problems), are likely to let opportunities to participate pass. Partly that will be because of contextual/facilitating factors like a lack of money. Those constituent problems will have been identified in the assessment of the 'changing behaviour' factors. When the target group consists of the members of an energy cooperative, then it could be that specific subgroups of citizens will not be reached, for generally an energy cooperative is not a cross section of the society. It could be that this requires an additional description of the target group and that additional actions (e.g. in the communication) will be needed instead of just reaching out to the cooperative. Therefore, identifying the target group should be accompanied by identifying the way this group can be reached.



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## Designing the strategy: How/level of participation

The intended level of engagement (inform, consult, involve, collaborate, empower) should be deliberately chosen. It can be tempting to always strive for the highest possible level, but that level should really be attainable and the consequences of it should be accepted (e.g. openness to completely change the project). In practice it turns out that based on best intentions for the community, the aspired level of engagement does not match the project and the already designed implementation. Not thoroughly thinking through the intended and attainable level of participation, is bound to lead to dissatisfaction and disappointment with the citizens and become a nuisance for all stakeholders.

As a general rule of thumb it can be stated that the higher on the participation ladder (empower is the highest, inform the lowest) the more successful participation will be, both in number of participating citizens as in the acceptance of decisions and feelings of ownership (Galende-Sánchez & Sorman, 2021), so therefore the best advice is to strive for community engagement at the level of empower or collaborate and preferably go beyond the level of inform and consult. Yet, different levels require different methods and instruments, and more importantly, different conceptions and policies.

In defining the intended level of participation, a few aspects should be considered:

- Identify to which extend are the specifics of the project still open for change. Identify whether only the problem is described and any solution can be chosen, or whether the solution to be implemented is also already chosen. So, identify the maximum amount of shared decision making possible from the project view.
- Identify whether local policy is directed towards and open to co-creation with citizen (empower) or whether policy is directed at designing and deciding at the governmental level after consulting the citizens, or whether the only role conceived for citizens is to be informed. So, identify the maximum of shared decision making possible from the local government view.
- Identify to what level of participation the community is open and ready for.

Having identified the above mentioned points, choose what the maximum possible level of participation attainable is, which is the lowest level specified from either of the three points.

Participation or engagement leads to further development of the local civil society as citizens work together and work together with other stakeholders. Therefore higher levels of participation will be especially interesting for citizens that highly value a strong local community and local identity.



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One further point to be made is that it is paramount to be open and transparent towards the citizens regarding the intended (or maximally possible) level of engagement/participation, even if that level is 'inform'. Although that could lead to a lesser engagement for the project at hand, the mutual relationship and the trust citizens have in the local government will grow from which future community engagement strategy will profit.

## Designing the strategy: Value proposition

In order to get citizens to participate, there needs to be value in the participation for them. Therefore, the project should align with the values they personally appreciate and the project needs to have something to offer in this regard. The process of working towards explicating the value proposition therefore consists of two parts:

- Identify which value profiles are best served by the project (e.g. bio spherical values because the project will mitigate climate change, or egoistic values because the project will lead to financial savings on the energy bill).
- Identify what it is exactly what a citizen will gain from participation (i.e. specifying what the concrete value proposition is, e.g. specifying in what way the project will mitigate climate change, or specifying how much many will be saved on energy per year).

Specifying the value proposition adheres to the 'what's in it for me' question citizens will ask one way or another. Please note that this not only refers to financial benefits, but also to benefits regarding e.g. biospheric or altruistic values, that cannot be expressed in a currency. Actually, the value for some citizens can even be totally unrelated to the content of the project, unrelated to renewable energy, and for example be solely related to being able to profile oneself and feeling important. Explicating the value proposition therefore should focus beyond possible financial benefits.

The value proposition should, naturally, apply to the target group, a point underlining the importance of specifying a target group. Actually, without a target group in mind, it would be barely possible to specify an appealing value proposition.

An energy transition or climate project (certainly within IANOS) generally is part of a series of projects that span several years and the ultimate goal will be to improve sustainability. This means that the project at hand should not be considered in isolation and that regarding the contact with citizens (participation) the project at hand should not damage future projects. This calls for caution when specifying a value proposition that is unrelated to climate change mitigation or the energy transition. Adhering to self enhancing values could



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tempt citizens to participate in the current project, if that project would e.g. be financially profitable for them. These citizens probably will evaluate future projects likewise and if the financial profit in that case is unsatisfactory, they could oppose it, leading to a negative net value over the current and future. On the other hand, participating in a project that adheres at least partly to self transcending values, will strengthen a biospheric or altruistic related identity at least a bit and thus increases the likelihood of others/future biospheric or altruistic behaviour.

In order to specify the value proposition a thorough analysis of the (consequences of the) project needs to be made. In addition, in order for citizens to understand the value proposition, precise and complete information on the project and its (intended) results should be communicated.

## Designing the strategy: Key actors and roles

By means of a stakeholder analysis, performed as a part of assessing the situation and the context, all relevant organizations and groups have been identified. By means of social network analysis the community networks have been identified. In addition, the target group for the community engagement strategy has been specified. All this information should consequently be used to describe every actor/stakeholder that contributes to the (implementation of the) community engagement strategy or that is influenced by it. It is important that for every actor the role within the community engagement strategy and the implementation of it, is specified.

Specifying the key actors end their roles serves multiple purposes. It is needed for purposes of project management, in order to enable a swift and proper effectuation of all the actions required for community engagement. In addition to that, specifying all key actors and their roles is a way to ensure that the possible contribution of every actor is carefully considered. It requires processing and combining information of at least stakeholders, community networks, demography, legislation and social factors. If done properly, the result is that the full potential of every actor is utilized.

There are two special (groups of) actors: the ones that initiated and manage the project and the target group(s). These are specified under the heading of governance and target group respectively.

Specifying the key actors should not be done (exclusively) from behind a desk - it requires interaction with the actors, for they should (off course) accept the role they are allocated and should be involved in devising it. This provides the opportunity to engage with all



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relevant actors, including representatives from the target group, early in the process of community engagement. When performed as described, it will likely result in positive initial engagement with the community, which is an important first step in creating a successful collaboration (Plate, Monroe, Friedrichsen, Bowers, & Chaves, 2020).

Special attention should be given to individuals (or groups) that have been identified in the social network analysis as occupying a special position in the local community (either forming a bridge between different subgroups or having the most connections within the community). These could be given a special role in contacting and delivering information. In addition, it is desirable to identify informal leaders within the community (target group). It could be that this coincides with key positions in the community network, but that is not necessarily the case. These informal leaders could also be given a special role in contact and communication.

## Designing the strategy: Governance

The community engagement strategy needs to take factors like the local governance culture, administrative procedures and decision making frameworks, into account. Generally, several policy domains (e.g. spatial planning, permits, finances, local business) are involved in a (community engagement) project, which requires an integrated overview and insight into mutual dependencies between them. The assessment as described under the header of legislation provides the input for this part of designing the strategy. The assessment is aimed at making an inventory of the relevant legislation in order to infer possible hindrances for community engagement. It should lead to an overview of all relevant legislation and administrative procedures and their mutual dependencies, in order to be able to let it facilitate a proper community engagement strategy, or at least to not get in the way of it. That information should be translated into actions and appointments, in order to ensure that these governance issues are taken care of. Within this topic the legislative actions and administrative procedures that need to be taken should be described, including a planning for doing that. The reason to explicitly describe this subject is, because in practice these factors often are delaying progress in a (community engagement) project. As such they often lead to citizens losing confidence and motivation. Therefore, special attention is required to this topic.

Within this topic, the formal project structure describing the initiator of the project, the formal responsibilities and eventual contractual appointments are described as well.



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## Designing the strategy: Communication

The communication topic is central to the community engagement strategy. It should describe in which way all the information about the project that is relevant for the community engagement, will be disseminated, at which moments and which criteria the content should satisfy.

To begin with, all the interactions with the community that will be taken in order to ensure an optimal engagement, should be described. The interactions can be of many different kinds (e.g. sending mail, organizing meeting). It is important to specify what information will be exchanged (what information will be presented to the community, what information will be collected) and the means by which that will be done. When the level of participation that is being aimed at is low (inform), then the communication will predominantly be a one-way stream of providing information to the community. With increasing levels of participation, the information from the community, increases. So, communication will reflect the intended level of participation.

Other topics of the community engagement strategy, off course, will provide input for the communication topic. The purpose and the concrete goals should be communicated with the community, as well as the value proposition and more general information about the project. The target group chosen determines to which the communication will be mainly focused and its form should fit in with the knowledge and information use profile of that group. Specific information regarding the key actors and the governance, in as far as they are relevant for the target group, should also be communicated.

Within this topic of the community engagement strategy several factors that have been assessed, can be translated into the appropriate actions. The goal of the strategy is that citizens will participate. Regarding the contextual factors, in particular cultural and demographic factors in particular will provide an impetus for communication.

Assessed aspects of the culture should be used to shape the communication (both form and content). When for example the local culture favors doing above saying, then the communication should be action driven. Or when the local culture is characterized by a low acceptance and very limited use of information technology, then the form of the communication should mainly be on paper and by live, oral meetings. Furthermore the content should then not focus on digital information, however if inescapable, it should contain proper explanations.

Assessed aspects of the demography should be used to design the communication, also both form and content. For example, when the assessment shows that a significant part of the community has a low level of education, then sufficient attention should be given to



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present information in such a way that citizens that are not used to read complex written documents and do not possess an extensive vocabulary, will be able to understand the information.

Assessed aspects concerning the state and stage of energy transition should be translated in the content of the communication, wherein the long time perspective should de sketched in order to provide citizens an explicit reference point regarding the current project(s).

Assessed aspects concerning the attitude should be used to design the communication. The values that are important for the citizens at which the strategy is directed, are translated in appropriate value proposition, which should be communicated appropriately to the target groups (i.e. the communication should support the same values). Assessed information on beliefs should also be used to design the communication. That should be designed to help form supporting beliefs for the project and tackle counterproductive beliefs. The communication is an important means of explicitly influencing the beliefs of the community (although the abundance of other information within the (social) media severely limits the impact of the community engagement communication). In addition, the communication should be addressing the motivation (or lack thereof) of the community.

Assessed aspects of perceived control should be used to design the communication. Basically, if there are problems regarding the efficacy, then the communication should specifically address that and should be used to influence the efficacy. If citizens question the effects of their own actions regarding the purpose (why) of the strategy, then communication should be used to explain that effect. Outcome efficacy is more sensitive to change in this way, than self efficacy, though.

Assessed aspects of social factors should also be used to shape the communication. Communication should adhere to identity profiles that have been found to be important and should be directed to supportive social norms. In addition, it should address the aspects that have been found to be relevant regarding trust, e.g. by having trustworthy people (from the outside of the community as well as from within) do the communication and by explicitly communicating what values are shared.

Assessed contextual/facilitating factors should be used to design the communication. Factors that have been assessed to facilitate engagement, should be shared with the community (in order to exert their facilitating influence), factors that hinder engagement should be solved first and then be communicated so citizens experience that obstacles are removed.

Finally, assessed aspects concerning habits should be used to shape the communication. As habits are automatic behaviour, communication can be directed at that behaviour and



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let citizen think consciously about it, hoping that they will continue to do that and will break the automaticity of the unwanted behaviour.

Summarizing, all relevant aspects of the factors that have been addressed in the assessment of the situation, are used to design the communication in such a way that both the form and the content are specifically designed to influence these aspects in a way that is supportive for engagement to grow.

Community engagement, at least from the level of consult upwards, is a process that develops over time. Communication should therefore address the interaction during the whole process, where the communication will differ both in form and content over time.

Special attention should be given to the communication channels (mail, e-mail, internet, social media, regular media, personal communication etc.). Several online media are highly suited to present information in several forms such that every citizen can access it at his most convenient time and in the form that suits him best. However, non-interactive, online communication will nor easily lead to active participation. Face-to-face and personal contact (which are better suited to convey all the important aspects related to behaviour change and the context) are more powerful. A communication strategy should be a careful balance between online and offline interaction.

In addition to the form and content of communication, an important driver of the impact of communication is the person that communicates. In the assessment central citizens or informal leaders will have been identified (community networks). These citizens could be used to communicate with the rest of the community in order to maximize the effect of the communication.

As was set out at the beginning of this part on designing the strategy, the information presented here is based on several approaches, many of whom have been based on practical experience and have been formulated by experienced professionals and citizens. Without exception, all those different approaches stress the importance of an open and transparent communication. Specifically, communication should be:

- Initiated early in the project, from the beginning.
- Used to build knowledge, skills and confidence within the community.
- Clear and transparent, also regarding the purpose and goals of the community engagement.
- Used to provide all available information to the community.
- Aimed at establishing relationships.
- Used to understand perceptions and attitudes within the community regarding the project.



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- Open for different opinions.
- Used to communicate the process and procedures of the engagement.
- Aimed at a dialogue.

In order to realize community engagement, it is imperative that personal communication is used and that meetings are organized where citizens can meet and can communicate groupwise (Bhinekawati, 2018). This is imperative, because community is an essential characteristic (therefore the community should also physically be allowed to grow) and because social processes are key in the development of a community (cf. social norms and identity). In all projects, therefore, there should be sufficient attention for community meetings. How such meetings will be organized and what activities will be performed, depends on the goal it serves, but there is a wealth of methods available (that will be described in a community engagement toolbox that will be developed in the consecutive phase of the IANOS project).

## Designing the strategy: Feedback

As was stated earlier, communication with the community should be focused on creating a dialogue. This is dependent on the intended level of participation, since for the lowest level, inform, the communication is one-way and only intended to present information to the citizens. This form of community engagement can barely considered engagement, though, and it can safely be stated that within IANOS it will not suffice to stick to that. For all higher levels of community engagement feedback from the community is required. Which kind of feedback depends on the actual level that is intended.

In order to build trust and to ensure a proper use of the information from the community, the strategy should state when, how and on which aspects feedback from the community will be requested. In addition it should state if there are limitations to the influence that the feedback will have on the strategy and how the feedback will be processed. Finally it should state in which way the processing of the feedback and to what adaptations is has led, will be communicated.

Explicitly stating this is important (actually acting in accordance is important) because the engagement process is a collaboration that needs to develop and one of the main issues is that citizens need to experience that they can influence the project, as having no influence is a main dissatisfier (hence also the importance of perceived control).



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## Designing the strategy: Energy cooperatives

In recent years, at least in Western Europe, local energy initiatives are emerging as grassroots movements to (predominantly) stimulate the production and use of renewable energy. The initiatives take many different legal forms, dependent (in part) on the products and services they aim to stimulate and the local/national legislation. Many take the form of an energy cooperative. These local, citizen-led initiatives are referred to in this report as energy cooperatives, but it refers to all different (legal) forms these initiatives can take.

The essence, off course, of energy cooperatives is that they are a prototypical example of community engagement at (generally) the collaborate or empower level of participation, originating from within the community itself. In designing a community engagement strategy there should be special attention for energy cooperatives. It has been shown that energy cooperatives can be a major driver of community engagement and the dispersal of renewable energy production and use and other pro-environmental behaviour (e.g. (Kaphengst & Velten, 2014)).

The situation can be either that there is a local energy cooperative (or maybe several) or that there is none. Both situations require different actions in designing a community engagement strategy. In case a cooperative is present, then it should be given a central role in the whole process of community engagement and preferably the strategy should be designed as a full cooperation between the local government and the energy cooperative. In order for that to be feasible, however, it should be verified whether the cooperative sufficiently represents the community that is relevant for the project. If is does not, then additional actions should be taken to communicate with the missing group and include them in the process.

Preferably, the energy cooperative would constitute the point where the local government (and other organizations) and the community interact, the point where community engagement materializes. In case there is a local energy cooperative, it should be given a special and central role in the community engagement strategy. Both the assessment of the situation and the project, and the design of the community engagement strategy should be performed in close collaboration with the cooperative. It should be verified whether the target group is sufficiently represented by the members of the cooperative. It is difficult for local energy initiatives to realize their goals (generally producing local, renewable energy and reducing energy use of their members) and many do not come to flourish (Germes, L. A. M. H. & Wiekens, 2017) (Germes, L. A. M. H., Wiekens, & Horlings, 2021). Before giving a cooperative a central role in the community engagement strategy, it should be ascertained that it is sufficiently viable. In addition in many instances energy initiatives represent only



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part of the local community and therefore cannot realize a sufficiently representative community engagement.

In case there is no energy cooperative, it should be checked whether there is a breeding ground for one to develop. A cooperative ideally develops from within the community and not on government's orders. The likelihood or opportunities for an energy cooperative to develop, depends on several factors that are beyond the influence of the local government (e.g. structure of the economy, energy dependance, cost of non-renewable energy, presence of energy incumbents, market rules). The local government can, however, facilitate the development of a cooperative by installing a local policy that favors environmental interests instead of economic growth, that focuses on security of supply of energy and that facilitates an open discourse on alternative energy sources leading to local knowledge building on the subject (Kooij, Oteman, Veenman, Sperling, Magnusson, Palm, & Hvelplund, 2018). In addition to that, the emergence of energy cooperatives can be facilitated by subsidizing their startup and installing a regional knowledge and support structure.



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# Chapter 5: Methodic application of the strategy

In the first part of this report the approach for the design of a community engagement strategy that was developed, was described. That approach was separated in two parts: a part describing some general characteristics and a model to be used for assessing the local situation in order to be able to design an effective and custom-made strategy; and a part describing the essential elements that should be addressed in a community engagement strategy.

Applying this approach starts with assessing the local situation on many different factors and using this to specify the community engagement strategy. At that point in the application of the approach the design of the strategy is ready, but it still needs to be executed. In order to ensure a swift but thorough execution, in this final part a small method to guide the whole process, including the execution, is presented. A proper guidance is required because is it of the utmost importance that the strategy is followed as designed because diverting from the plan can seriously harm the relation with the community and lead to diminishing trust (to give an example).

The small guidance for the whole process of designing and implementing a community engagement strategy is based on the PDCA-approach of Deming (….). It consists of four steps (plan, do, check, act) that are executed in a continuous cycle. The four steps will only be briefly described.

## Methodic application: Plan

The first step, plan, consists of following the approach as was described in the foregoing chapters. As was stated in the introduction, this report was written with the starting point of designing the community engagement strategy for a use case within IANOS in mind. That starting point is that the local government is the initiator of a project on renewable energy employing a specific technical solution. The following steps should be taken:

1. Start to make contact with the local community and other stakeholders. Set up a project group with representatives from the most involved stakeholders, at least containing representatives from the local community.
2. Perform an assessment of the context. Gather the information from the stakeholders and the community. While performing the assessment broaden the contacts (in order to get specified information needed). Check the assessment with the project group.



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The way in which the information will be gathered and to which level of detail, cannot be specified in advance. It depends on many variables, like whether there have been earlier projects on community engagement, the size and composition of the community, whether factors have been assessed earlier, whether the assessor(s) are members of the local society or outsiders, and so on. In order to check the completeness of the assessment, visualize the implementation of the project and check whether all the points where it influences citizens or is influenced by citizens, have been sufficiently elaborated. Make sure the assessment is put in writing.

3. Identify opportunities and hindrances for behaviour change, assess the situation concerning the behaviour change factors. Check the assessment with the project group. The level of detail of the assessment can vary considerably. It concerns characteristics of individual citizens, but is only interesting (and will only be acted on) when groups of citizens have a similar profile. The most reliable way to perform the assessment would be to perform a thorough survey with a representative sample of the community, but in most circumstances this will not be feasible. In that case, gathering the information could be done by interviewing several representatives from the community and the stakeholders that are most familiar with the community and let them estimate the situation concerning the behaviour influencing factors. It should be ascertained that the information should be assessed for the entire community. This can be done by using the community networks analysis to check for every factor whether it has been identified for all groups and types of citizens. Preferably, citizens that constitute a representative sample of the community would be interviewed for the purpose of this assessment. Information already known (or believed to be already known) should be checked with citizens. Make sure the assessment is put in writing.
4. Design the strategy for community engagement. Fill in the items listed in this report and make sure the information from tech assessment that is used in specifying every item, is explicitly described. Check the strategy with the project group and ensure that at least feedback from within the community and from the main stakeholders is processed.
5. Make a plan, i.e. process the strategy into an action oriented plan and make the time schedule explicit as well as the resources needed. Check it with the project group. Finally, communicate the plan to the community.



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## Methodic application: Do

This step is relatively easy to describe, although no necessarily easy to perform. It just consists of executing the plan that was developed according to the actions and schedule that were specified.

This step contains actually getting the citizens engaged.

## Methodic application: Check

The execution of the plan should be monitored, both at a project management level (schedule, resources, responsible actors) and at the content level (are the right things performed, does it develop as foreseen and do they bring the results that were expected?). Explicitly keep track of the progress and communicate it with all the stakeholders and the community. Keep track of the realization of the concrete goal as well as the ultimate purpose. Gather feedback from all parties involved with special attention to the community. Use the feedback and the monitoring information to evaluate whether modifications of the plan are needed. Communicate the monitoring data and the feedback to all involved parties, including the community.

## Methodic application: Act

Use the monitoring information and feedback to make modifications to the plan if necessary. In case modifications are being made, make sure they are designed like the original plan was designed and communicate the changes. By doing this, in fact the plan step is performed again and a new cycle of the four steps is started.

## Application on a Lighthouse or Fellow island - timetable

In order to facilitate the application of the strategy on one of the Lighthouse islands or on one of the Fellow islands of the IANOS project, a tentative process and timeframe is included below. As will be clear by now, it is imperative that all actions regarding community engagement, are tailor-made to the local situation and the project at hand. The projects at hand, where the strategy should be applied, concern the Use Cases that will be implemented in the course of the IANOS project. The local situation on one of the islands will not differ over the course of the implementation of the various Use Cases. Nevertheless, In order to maximize community engagement for every Use Case, the strategy should be adapted to the specifics for every Use Case separately. The differences between the Use



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Cases will most probably be small and most likely over the Use Cases an integrated approach will come into being.

| **Step** | **What to do** | **Duration (1st Use Case – following Use Cases)** |
|---|---|---|
| Make contact with local community and stakeholders | Perform a stakeholder analysis for a Use Case | 2 weeks – 1 week |
| | Make contact with the local community | 2 weeks – 1 week<br>but generally already sufficiently done and therefore hardly any additional actions necessary (0 weeks) |
| Perform an assessment of the context | Use surveys, interviews, desk research and alike, to get all the information needed (see chapter 1, 2, 3 and 4) | 3/ 6 weeks – 1 week |
| Identify opportunities for behaviour change | Use surveys, interviews and experience with earlier projects | 3/6 weeks – 1 week |
| Design the strategy | Fill in all the steps, make it specific for the Use Case at hand and use the assesments of the context and the opportunities for behaviour change from the foregoing steps | 2 weeks – 2 weeks |
| Make a plan | Process the strategy in an action plan | 1 week – 1 week |
| Execute the plan | Perform the actions, monitor the progress en feedback the experience into the assessments (so you get richer information for future actions) | Depends on the Use Case |

For the design of the community engagement strategy for the first Use Case, at least two-and-a-half months should be reserved before the actual start of the project, and maximally



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5 months. For adapting the strategy to a new Use Case, about one-and-a-half month should be reserved.



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# Part 3: Learning from best practices



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# Chapter 6: best practice analysis

The research question central in Workpackage 8.1 of IANOS as it is formulated in the grant agreement, is: develop a community engagement strategy to be used to monitor and increase community engagement in the different use cases. Or short: 'How can community engagement be increased?'

In addition to the theoretical underpinning of a community engagement strategy, best practices from all participants were collected in order to supplement the approach. In order to ensure a methodologically sound way of extracting reliable and valid data from best practices, a meta-synthesis methodology was used. A meta-synthesis on qualitative studies (as is the case here), results in a qualitative synthesis, a narrative that describes the general conclusions that can be drawn. The method is further elaborated in addendum 1.

The individual cases were described in terms of the general approach that was presented in part 2.

## Best practice analysis – results

### *Some key figures*

The participants from the lighthouse islands and fellow islands altogether selected 17 best practice cases (projects/studies) that were subjected to the best practice analysis.
Of the 17 cases, 16 cases were energy-related projects, 1 was related to mobility and one to both energy and mobility. In total 7 cases concerned studies performed at an island, 10 were performed on the mainland. The studies were performed between 2012 and 2021, an occasional study was still ongoing. The results of 13 studies were published, the other 4 studies were not published. The type of publications varied largely (scientific journal; conference proceedings; EU project report; internal report of an organisation). For the studies that did not end in a report, the results were collected through an interview with a person that was responsible for the project (see also addendum 1). In 5 cases an energy cooperative was involved.
Of all 17 studies, in 1 study the project was designed bottom-up, 10 were designed top-down and 6 partly bottom-up and partly top-down. The intended level of participation of



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every case was determined according to the 5 levels of the IAP2 (see figure 1). In total, 3 studies were dedicated to informing citizens, 1 to consulting, 9 to involving and 4 to collaborating. None of the studies resulted in a decrease of community engagement, 3 studies showed no change, 11 studies resulted in an increase of engagement and 3 in a large increase of engagement.

The participants of the light house and fellow islands provided a lot of specific information about their best practices, guided by an extensive data extraction form (see addendum 2). For those instances where an interview was used to get the required information, that form was used as a guideline for the interview. The data extraction form contained (among many other items) the factors that were identified as relevant for the design of the community engagement strategy, in part 1 and 2. A summary of most of these factors is presented in table 1, from where it can be read for each factor in how many of the 17 best practice cases that factor was taken into account. In some instances the information needed to infer that, was unknown, consequently, for some factors the 'yes' and 'no' answers do not add up to 17.



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*Table 1: A summary of some of the characteristics of the best practice studies, which refer to the general approach from part 1 and 2. Notice that the numbers from 'yes' and 'no' do not always add up to 17 as in some cases the required information was not known.*

| | yes | no |
|---|---|---|
| was the com.eng. strategy tailor-made for project? | 13 | 4 |
| was specific local information gathered? | 10 | 5 |
| was a stakeholder analysis performed? | 6 | 11 |
| was the local demographic situation mapped? | 7 | 10 |
| was a social network analysis performed? | 5 | 12 |
| was a deliberate communication plan used? | 15 | 1 |
| was the com.eng.strategy aimed at a specific target group? | 9 | 5 |
| could citizens request further information? | 10 | 4 |
| was information provided in writing? | 13 | 1 |
| were meetings with citizens organized? | 14 | 2 |
| were citizens given opportunities for input? | 10 | 6 |
| was the input of citizens used to make changes to the project? | 7 | 9 |
| did the citizens get feedback on their input? | 4 | 10 |
| was digital or social media used for information dissemination? | 11 | 5 |
| was the transfer of knowledge to citizens part of the communication? | 11 | 6 |
| were there governance issues hindering or facilitating the project? | 2 | 12 |
| were cultural factors mapped? | 2 | 14 |
| was the com.eng.strategy adapted to culture specific issues? | 3 | 10 |
| was the com.eng.strategy adapted to meet the values that were important to citizens? | 2 | 14 |
| was the effect of social norms incorporated in the com.eng.strategy? | 6 | 11 |
| was the effect of efficacy incorporated in the com.eng.strategy? | 5 | 11 |
| were other behavioral factors mapped and incorporated in the com.eng.strategy? | 13 | 4 |

As can be seen in table 1, every factor was used in at least 2 cases. Some factors were used in most cases, especially those that are not specifically related to behaviour change. The most frequently used characteristics are related to mapping the local situation, several aspects related to communication, information dissemination to citizens and their reactions and making the community engagement strategy fit to the project at hand and the local situation. So, part of the general approach was substantiated by the best practices.
Notice though, that requiring to present information on the various factors from the general approach, provides a bias towards those factors, since factors not considered In the general approach will not necessarily be mentioned. In addition it should be mentioned that although many factors were incorporated in a substantial part of the best cases, they were often not treated as complete as described in the general model.

## *The concluding narrative*

From all the different best practice cases, it turned out to be very well possible to derive some kind of concluding narrative that covers most of the working factors and advices from



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most cases. This narrative is described below as if it all best practice cases hold the same vision. Remember that it is some kind of average, general conclusion and that for several parts it could be that it is not completely in alignment with a specific underlying case. Nevertheless, the narrative is not conflicting with any of the underlying cases.

Perhaps most important for the design of community engagement is to make sure that citizens will be given as active a role as possible, so preferably are able to participate at the 'higher' end of the scale (citizen control or collaborate) and preferably not at the lower end (inform or consult). In addition, citizens should be involved in the project as early as possible and certainly before the actual implementation of the project starts.

Time and again it turns out that there is no one-size-fits-all solution to community engagement. What is needed is a personal approach, a strategy that is tailor-made. The personal approach should be tuned to the local situation, to the wishes and demands of the citizen(s) that are invited to be engaged. It requires that the communication is also tuned to the individual citizen (or to a group of citizens that are comparable in this regard). Although general communication is perfectly suited to be used in any community engagement project, it should be succeeded by communication that is shaped to the individual situation and needs. As to what are important aspects to consider in personalizing the approach, remains somewhat unclear. Most of the factors that are described in the general approach have been addressed in at least one best practice case, but in many instances it has not been addressed as complete and thorough as it is advised in the general approach. Although only an occasional best practice points to the explicit use of some of the specific factors from the general approach, the overall conclusion is that detailed information about the community and its constituent citizens is needed in order to communicate properly and to make sure that the community engagement strategy can be fit to the person, group and situation.

There are a few factors from the general approach that have not been shown to be important in any best practice case: values (in the meaning as it was described in part 2) and habits. Apparently these factors do not appear to be to relevant for the community engagement strategy.

Focusing on making a detailed match between the project for which a community engagement strategy is being developed and the community (members), seems to require to describe the targeted citizens in some detail and focus on specific groups – i.e. describing the target group as set out in part 2. Nevertheless, none of the best practice cases explicitly concludes that the specification/selection of a target group is needed.



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Providing information (knowledge in terms of the general approach) is considered important. Citizens should be made knowledgeable about the details of a specific project. For example, in order to engage the community for a heat pump project, the community should be given all relevant information on the working of a heat pump, if there are situations where it is not very usable, how it should be operated etc.

Community engagement should be considered a continuous, ongoing process instead of a discrete, one (or a few) time (s) only approach. What is needed for a lasting engagement is that citizens and the other stakeholders develop a mutual trust and that their contact can develop over time. So stay in touch with the community also after one specific project has ended and provide feedback on how the project has been run. Consider community engagement as a step-by-step process in which one can learn from different target groups at different moments.

Community engagement is best realized if it is not requested from outside the community, but when it is requested from inside, such as in the case of an energy cooperative. Therefore, if there is an energy cooperative active in the community, that should be actively involved in the project. On the one hand the contacts and networks that the people from the cooperative have, are much better suited for engaging other citizens. On the other hand, organisations and the (local) government are often insufficiently trusted by many citizens, while other members from within the community (such as those active in the cooperative) are trusted better.

It is important to communicate the value a project has for citizens, in order for them to participate. So specifying a value proposition is key. Generally, the value proposition is regarded as some financial benefit for citizens, by many stakeholders in many projects. From the best practice cases is shows that sometimes specifying a financial value proposition is successful, but sometimes it has almost no effect at all and apparently the value for citizens should sometimes encompass something else. Therefore, in specifying a value proposition, it is important to look at both financial and non-financial values.

It is highly recommended to use existing (formal and informal) networks already present and operating within the community, to disperse information and to get into contact with citizens. In addition, it is recommended to use some central citizens as a role model in the project.

Good communication with the community is of central importance. Several of the advices that have been mentioned this far in this narrative, are related to the quality of communication. In order to be able to communicate good, a communication plan is very helpful. The quality of the communication resources is important and the use of social media and the internet is highly recommended. As already stated earlier, general



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communication to the whole local community, by means of some general description of a project, is not sufficient. It can be very useful as (a first) step in the communication with the community, but should be followed by more specific communication, crafted to the needs of subgroups or individuals.

In the best practice cases there were virtually no governance issues that blocked (or facilitated) the deployment of a project. In regard to governance issues, however, the active participation of the local government was highly valued and considered important.

Finally, it is recommended to let the community engagement be guided by a plan. It is key to make sure that all information that is conveyed is trustworthy and correct, that promises will be fulfilled and that actions that are planned are actually performed. Provide citizens with feedback and information about the progress of the project and communicate results (sometimes results from other projects can be useful as well) to them. Make sure that there are sufficient (qualitatively good) human resources available in the project, make sure that goals are met and make sure that financial resources are delivered if that was promised.

## Best practice analysis – adjustments to the general approach

The results from the best practice analysis, overall are in line with the general approach, consisting of three steps (assessing the situation and project; designing the strategy; methodic application of the strategy). All the suggestions and advice regarding the design and application of a community engagement strategy from the best practice analysis are incorporated in the general approach. The general approach seems to be complete and suitable for the job. However, the best practice analysis does give some additional focus on different parts of the general approach.

### *Methodic application of the strategy*

To begin with, the best practice analysis supports a methodic application of the strategy. The approach chosen and described in chapter 5 is suitable to perform this.

### *Designing the strategy*

The approach to designing the strategy, as was described in chapter 4 also is in line with the main results from the best practice analysis. Some emphasis can be given to some of the steps in designing the strategy, though.



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The distinction that is made between the specific goal of the project and the more general purpose (the 'why'), did not appear to be relevant in the best practices. Also specifying the target group was not mentioned as an important step in the best practices, meaning that in the best practices the target group was never mentioned as an important aspect.
Meanwhile, in the majority of the cases the communication was tailored to a specific target group, so apparently it was considered relevant. In addition, the need for a tailor-made approach, resulting from the best practices, supports the identification of the target group. Altogether, this step seems to be important to emphasize in the design of the strategy.
The level of participation and specifying the value proposition are clearly emphasized by the results of the best practice analysis.
Specifying the key actors and their role is not mentioned once in the best practices. Part of the data extraction form consisted of specifying the actors and their roles for the cases. For several cases the information regarding the actors and their roles, was quite general and partly incomplete – which means that the information was not provided clearly in the reports. That probably reflects that this was considered as not very important.
Regarding the governance it turned out that in all the best practice cases this did not present a possible hindrance or facilitator of community engagement. In the general feedback on best practices it was mentioned several times, so it appears to be an important part.
The importance of communication and of feedback is clearly underlined by the best practices, though it is remarkable that in only 4 of the best practices this was taken care of (see table 1).
Finally, the usefulness of incorporating an energy cooperative in the community engagement strategy is clearly shown in the best practice analysis.
Concluding it can be said that the approach to designing the strategy is supported by the best practices. Based on those best practices it can be concluded that distinguishing between the 'why' and the goal should not be aal that important and that specifying all actors and their roles, neither. Those two steps could be performed less extensively.

### *Assessing the situation and project*

The results from the best practices show that there was no case in which all the different variables that are described in chapter 3, were mapped. However, as can be read from table 1, all relevant factors were addressed in at least 2 of the best practice cases. It should be noted though, that the way the variables were identified and used, in almost all



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cases was not as extensive as is described in chapter 3. The conclusions that were formulated in the data extraction forms regarding what worked, what was essential and what did not work, showed that getting a good view on the community and the citizens, is considered an important aspect. There is not an agreed upon best way to do that within the best practices. Combining this with the very strongly mentioned point that a personal and tailor-made approach is indicated, the conclusion can be that assessing the situation and the project, is supported by the best practices.

Also here some emphasis can be given: assessing the values and the habits seems to be least important; assessing knowledge, trust and contextual/facilitating factors seems to be most important. However, since most cases were not performed methodologically rigid in this respect, the value these conclusions should be taken with caution and the approach on assessing the context and project should best be left unchanged (as described in chapter 3).



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# Addendum 1: best practice analysis method

The analysis followed the guidelines provided by MacMillan, McBride, George & Steiner (2019), the details will be specified based on Dawson (2018), Booth (2017), Dixon-Woods, Bonas, Booth, Jones, Miller, Sutton, Shaw, Smith & Young (2006), Hillier, Grimmer-Somers, Merlin, Middleton, Salisbury, Tooher & Weston (2011), Green (2005), Rycroft-Malone, McCormack, Hutchinson, DeCorby, Bucknall, Kent, Schultz, Snelgrove-Clarke, Stetler, Title, Wallin & Wilson (2012) and Khan & Krishnan (2021).

Below, the consecutive steps in specifying the meta-analysis, will be elaborated.

## Best practice analysis - constructing the research question

The research question is how community engagement can be increased. Looking for best practices therefore requires projects in which community engagement is monitored in some way (or at least evaluated at the end of the project).

From the preliminary literature search that was performed in the first stage of workpackage 8.1, it turned out that the monitoring of community engagement varies largely between studies and is often not measured in a methodological sound way or not measured at all. The primary focus of the meta-synthesis will be on the energy-transition domain which is the subject of the several use cases. However, community engagement is not solely tied to the energy domain nor are research papers considering community engagement.

In the meta-synthesis, community engagement is regarded as the degree of engagement of the community. There are two different parts to this definition: the number of citizens that are engaged and their degree of engagement (fully/active, partially or only slightly). This will be further elaborated in the paragraph on data extraction.

As IANOS is targeting island-communities, community engagement in the meta-synthesis is primarily directed at a geographically defined group of people.

The meta-synthesis is aimed at identifying approaches or methods that can be used to increase community engagement i.e. that can be used to design an optimal process of community engagement.



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## Best practice analysis - searching for relevant studies

The meta-synthesis is focusing on best practices. Best practices generally refers to a method or means that has been shown through research and/or experience to be most effective. The objective of the meta-synthesis is thus to identify best practices through analyzing applied research and actual, implemented projects aimed at community engagement.

Many relevant studies have not been published in scientific journals and cannot be found easily, if at all. Therefore the various participants of workpackage 8.1 within the participating islands and countries (Ameland/The Netherlands, Terceira/Portugal, Lampedusa/Italy, Nisyros/Greece and Bora Bora/France) used their local networks on the islands (and beyond) to identify any studies that are relevant for the meta-synthesis. Off course, studies that were reported in the scientific literature regarding local community engagement projects, could be usable as well, but it turned out that there were no such studies available.

The participants searched for projects of which the reports are available to only the local, participating parties. It is especially these reports that are not easily identifiable and attainable for the international (applied) scientific community, but nevertheless contain very interesting data.

A second group of studies the participants on all the islands searched for, were studies and projects that were devoted to community engagement but that were not published in any structured report at all. In that case, the IANOS participants first tried to identify whether the study or project did fulfil the requirements set for all studies (see the section on selection of studies). If these were met, the IANOS participant interviewed the project leader of the study or project and tried to collect the data necessary for the meta-synthesis. The interview was highly structured, following the data-extraction scheme specified furtheron.

## Best practice analysis – method / developing a protocol

For a proper meta-synthesis, a protocol for selecting studies (best practices) and extracting the relevant information from that, was specified.

### *Method - eligibility criteria*

Any report that was found can be included as long as the following variables are described:

Author of the report and his or her role in the project described.

Community (at least location, preferably some additional characteristics such as cultural background and stage of energy transition).



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The relevant stake holders for the study/project.

Target audience of community engagement intervention.

Community engagement intervention used, including a description of the intervention that will suffice to repeat it or with a reference to a source where it is sufficiently described.

Value proposition of the project where community engagement was targeted for.

Effect of the community engagement intervention on the number of engaged participants and/or the degree to which citizens were engaged.

The language of the report should preferably be in English, but can also be in the native language of the participating IANOS participant (in that case the participant will not only extract the required data from the report, but will also produce a short executive summary in English).

The topic should preferably be energy related (e.g. energy transition, energy behaviour, energy cooperative), but studies/projects on other topics could also be included, as long as it presents relevant information on the way to influence community engagement.

There is a special interest in studies/projects concerning energy cooperatives, though that is not an exclusion criteria.

## *Method- information sources*

All information resources could be used: scientific publications, professional publications, internal reports of research institutes, internal reports of (governmental) organizations, reports from European-funded projects, student papers. Each report or study was assigned a weighing factor which determined its contribution to the conclusions of the meta-synthesis.

If there was no complete report published, but the data of the project were recorded and available to the project leader, all the required information for the meta-synthesis could be gathered by means of a formal interview performed by the IANOS participant. In order for such a study to be incorporated in the meta-analysis, it was a prerequisite that some formal kind of data recording and data analysis has been performed (which can be used in answering the interview questions) and that the reliability and validity of the project results could be assessed by the IANOS participant.

## *Method - search strategy*

A database search was performed on relevant local databases.

A search in the professional network of the IANOS participants was performed.



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## *Method - data management*

The report of each study/project included in the meta-synthesis was stored. In case of an interview, the interview data were stored.

For every study included some meta-data (e.g. the IANOS participants involved, the original source of the study, whether there has been additional contact with the author of the report) were stored.

The data required for the meta-synthesis which are extracted from the original publication or report, were recorded in a table that was be used for the actual data-synthesis.

## *Method - selection process*

For each study or project that was identified in the search process, the decision to include or exclude it in the eventual meta-synthesis was made by the researcher from the IANOS participating organization performing the search. I case of doubt whether or not to include a study, the researcher consulted the task leader. Only studies that both of them agreed on were actually used.

## *Method - data collection process*

The data collection for the meta-synthesis was based on the publication or report of the study/project.

If necessary (because of incomplete or indistinct data) and possible, additional information could be obtained from the author of the publication or the report.

In some cases, the data collection was done by means of interviewing the project leader of the study/project.

The data required for the meta-synthesis is recorded in a data table which presents a standardized data extraction form that will be used for all studies/projects included.

## *Method - outcomes and prioritization*

Several variables were recorded from each study/project, for which a standardized form was used. The standardized form contained those variables that have been identified in foregoing chapters as relevant for the design of a community engagement strategy. The form is based on the general approach to designing a community engagement strategy. In addition to the standard



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topics/questions, any other relevant variable or topic could be added if the IANOS participant regarded it as important to community engagement.

The standardized form is listed as addendum 1.

## *Method - data synthesis*

There were no studies that made use of quantitative data. All best practice studies selected by the participants were qualitative studies. Therefore, there was no need to specify a method for aggregating quantitative data.

The data-synthesis was based on the general approach on designing a community engagement strategy. That general approach states that any community engagement strategy should be tailor-made for any specific situation and project. It describes several variables that have been identified in community engagement projects to be relevant for the choice of a community engagement approach (intervention) and the outcomes. Basically the meta-synthesis was dedicated to determine what methods of community engagement work, for whom, in what circumstances, in what respect and why. Therefore the data was grouped according to the actual situation (e.g. demographic factors, viable community networks, presence and inclusion of an energy cooperative). The way community engagement was performed was classified according to several relevant factors (e.g. aim of the project, value proposition, target group) and the actual way the engagement of the community was addressed (which we also call the community engagement intervention e.g. communication, group meetings, investing money in the project) was recorded. For all studies the eventual effect on community engagement was also recorded. It was assessed which intervention work best and if that differs between the relevant factors and the characteristics of the situation and project. Next, methods that were effective for different situations (factors and characteristics) were identified.

The qualitative data was summarized in a narrative.

## *Method - planned assessment of meta-biases*

The quality of all studies was assessed in order to ensure that those studies/projects that present the strongest evidence, will put a heavier weight in the summary of conclusions of the meta-synthesis. Studies/projects weight was based on:

- Soundness methodological design (methodologically sound presents a higher weight)



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- Publication medium (e.g. peer-reviewed presents a higher weight)
- Accuracy and completeness of publication (complete description of method and substantiation of it presents a higher weight)
- Range of citizens involved (more citizens involved presents a higher weight)
- Carefulness of the process of performing the study/project (a diligent study presents a higher weight)
- Reliability and validity of the effects measurements (a reliable and valid measurement of results on community engagement presents a higher weight)

It should be noted that all studies/projects are so-called natural experiments. They are generally not dedicated to experimentally finding out what community engagement strategy works best, they implement a specific strategy. Due to the natural environment in which the studies/projects were performed (in real life) there usually was no way to eliminate confounding factors and every study/project is unique because of the uniqueness of every situation and project. Therefore, the above mentioned assessment of weight could not be performed to rigidly. Nevertheless, in as far as it was possible to assess the various relevant factors, it was done and used to ensure an optimal meta-synthesis.

### *Method - selection of studies*

The focus was on searching for studies that are not published within the common scientific and professional media, as those have already been identified in the literature review stage.

There was a special interest in studies/projects on community engagement regarding the energy transition or energy behaviour, on studies/projects including an energy cooperative and on studies/project performed on islands, though studies/projects on different topics and from different areas were included as well.

Any study/project that is devoted to influencing community engagement could be a relevant resource. However, since the number of studies/projects on community engagement within several fields besides energy, is enormous, some heuristic on whether or not to include a study/project, was provided. Every project participant decides himself/herself whether a study/project was included in the meta-synthesis. He/she decided to include it if it appeared to be of value to the goal of the meta-synthesis. A study was included if:

- It was performed on one of the lighthouse or fellow islands or one of the other islands of the same archipelago.



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- It concerned community engagement in respect to energy behaviour, energy transition or any other topic regarding energy.
- It included an energy cooperative.
- It was a meta-study on the subject of community engagement and is not older than 12 years.
- It was financed by the European Union (e.g. the Horizon projects).
- It specifically contrasted two or more community engagement strategy or community engagement methods (which are all applied).



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# Addendum 2: data-extraction scheme

## Short project description

Please describe the project in a short alinea.

## General information

Person that filled in the questionnaire: name, function, organisation, e-mail address

Year (end of project)

At which year was the project finished and the results assessed?

Place

At which place (country - region - city) was the project performed?

Researcher/project manager responsible

Who was the researcher or project manager that was responsible for the project?

Publication

Is there a publication of the project? If so, please add it to the filled-in questionnaire.

Are the community engagement strategy and its results described in the publication?

Did you use the publication(s) to fill in this questionnaire?

Did you request and obtain additional data from the author that was not included in the original source? What kind of additional data is that?

Please add the article or report (preferably as a pdf file) as an appendix to these forms.

Interview

Did you interview a project member to provide the required information?

Name of interviewee?

Role of interviewee in the project?



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## Project content

Design of community engagement

Was the community engagement specifically designed for the project, i.e. was it adjusted to the specifics of the project?

Was specific information gathered in order to make an optimal adjustment of the community engagement strategy to the specifics of the project, possible? Which information was gathered?

Was a stakeholder analysis performed?

If so, how was it performed, was a specific method used - under which name is it known?

If so, is there a reference to a description of that method?

Value proposition

What was the value proposition of the project; what was it about?

Goal

What was the aim, the goal of the project? Please specify it as concrete and specific as possible.

What was the ultimate goal of the project? To which overarching goal was it supposed to contribute?

## Actors

Key actors

Which were the key actors that were involved (both institutions/companies and individuals)?

What was their role in the project?

Was the project initiated bottom-up from within the community (e.g. a group of citizens), top-down from an organisation or institution (e.g. the municipality) or was it a mix of both?

## Citizen involvement

Target group

Was an inventory made of the local community regarding the demographic composition?

Was an inventory made of the local community regarding social groups?

Was the project directed at a specific group of citizens? If so, which group was it directed at?



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What was the intended level of participation of the (target group of) citizens? (Classification in 3 or 4 levels)

Was there an energy cooperative involved?

## Communication

Was a deliberate communication plan designed and deployed?

Was the communication adapted to specific target groups (both regarding the means of communication and the content of the communication)?

Could the citizens request further information?

Was written information send around?

Were meetings organised to discuss the project?

Could citizens provide input?

Was the input from citizens used to make adaptations to the project?

Were the citizens receiving feedback on how their input was processed and whether it led to changes in the project?

Were digital and social media used to disseminate information? Which digital and social media?

## Governance/legislation

Where there specific aspects of the (local) governance that either facilitated or inhibited the engagement?

If so, what were they?

How were they dealt with in the community engagement strategy?

## Culture

Were cultural factors mapped in advance?

Was the community engagement strategy used in the study specially adapted to the local culture?

If so, in what way?



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## Community networks?

Was a social network analysis performed?

If so, how was it performed, was a specific method used - under which name is it known?

If so, is there a reference to a description of that method?

## State/stage of energy transition

Can you describe the state of energy transition of the place where the study was performed?

(Just starting - a few years and several projects on the way - front runner in energy transition)

## Behaviour change

### Values

Was the community engagement strategy adapted to the values that are important for the target group?

If so, in which way?

How were those important values determined?

### Social norms

Were social norms incorporated in the design of community engagement?

If so, in which way?

### Efficacy

Was self-efficacy (the belief of people whether they can influence their live/surroundigs) or outcome-efficacy (the belief of people whether they can make a difference) incorporated in the design of community engagement?

If so, in which way?

### Other

Were other factors that are relevant for changing behaviour incorporated in the design of community engagement?

(e.g. identity, beliefs, habits, motivation, knowledge, trust in institutions)



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If so, please describe what and in which way?

## Outcome

What was the result regarding community engagement?

- Did the number of engaged citizens change? How large was the change? Either a percentage or a classification on a 5-point scale.
- Did the degree of participation change? In what way? Classification in five classes, based on the IAP2 spectrum of participation.
- Did the intention to participate change? How large was the change? Classification on a 5-point scale.
- Did the intention for energy behaviour change? How large was the change? Classification on a 5-point scale.
- Was there a change regarding an energy cooperative? Was one started or did an existing one grow (and how much - either as a percentage or a classification on a 5-point scale)

## Conclusion

What was the conclusion of the study/report regarding community engagement?

- What did work according to the authors?
- What did not work?
- What do they consider relevant in designing a community engagement strategy?
- What is their advice for future projects concerning community engagement?



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