



In my back yard?

Community Acceptance of Local Energy Initiatives

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PREFACE

After spending countless hours in the university library, my Master's Thesis has finally been finished. This will be the last step toward completing the Master programme in Society, Sustainability and Planning. The topic of this research is the community support of local energy initiatives. During the thesis market, my attention was drawn to a presentation about the energy initiative that was working in the Oosterpoort to accelerate the energy transition. This caught my attention, as I am intrigued by the idea that we could collaboratively create our energy systems. Personally, the possibility of a more fair energy system for both people and planes gives me hope for a better future. At the same time, I am aware that not everyone is so enthusiastic about the energy transition. On the news, I heard of several instances where communities protested local developments. Fascinated by the question of why some people embrace the energy transition and others resist it, I set out to find an answer.

The experience of writing the thesis has thought me a lot. I feel appreciative of my friends and family that were there to support me during the process. I also feel very thankful for all participants that took the time to join me on a walk through the Oosterpoort, and who made this research possible. I thoroughly enjoyed meeting so many interesting people and hearing their perspectives. They led me to discover beautiful places in Groningen that I hadn't seen before, even after 7 years of living here! I hope that they can recognise themselves in the story and that I have correctly portrayed the central message they wanted to convey. I wanted to thank the people from the LECO initiative for their time and effort as well, especially Hans van Hilten. Last but not least, I would like to thank my supervisor Ferry van Kann for all the time and effort he has put in. The countless brainstorming sessions and feedback meetings were very valuable to me. His enthusiasm and trust helped me to continue and stay on track.

Enjoy reading my thesis!

Sanne van Delden

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ABSTRACT

There is broad public support for sustainable energy developments, yet local projects often run into opposition. In the past, this difference has been dismissed with the ‘NIMBY’ assumption. This study goes beyond this assumption and aims to provide insights into why people support or oppose local sustainable energy developments, by doing a case study of the Oosterpoort neighbourhood in Groningen. The Oosterpoort is a relatively dense 19th-century neighbourhood, with high place attachments. The main method of the research is the walk-along interview. The research identifies several factors which could influence support, related to the technology in question, the process and the place of implementation. It is concluded that people hold very nuanced views that cannot be easily captured with simple explanations. The attitudes that people hold towards the initiative differ greatly: whereas one respondent principally rejected the project, another thought it was the only way forward. At the same time, most interviewees were generally positive. The extent to which the identified factors affected people’s attitudes differs from person to person. The results especially show the significance of trust and (the form of) place attachments. Lastly, some recommendations are given: The meanings and emotions that were found can be used to construct a narrative around the energy technology, for example utilising the history of the neighbourhood with collective action. Moreover, it is recommended to place technologies outside areas to which people feel particularly attached. Lastly, broader advice is given to all planners to visit the place, engage with the people living there, and be curious!

Key words: local energy initiatives, energy transition, social gap, public support, NIMBY.

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Abbreviations

CBS	Centraal Bureau van Statistiek
EU	European Union
IPCC	Intergovernmental Panel on Climate Change
LECO	Lokale Energy Cooperatie Oosterpoort
NIMBY	Not In My Back Yard

CHAPTER 1. INTRODUCTION

This chapter provides a background on the research topic. Next to this, the academic and societal relevance of the research will be considered. Moreover, the research questions and sub-questions will be introduced. The last part will elucidate the structure of the thesis.

1.1. Background

In the documentary “Tegenwind” [documentary which follows the effects of the top-down construction of a windmill park on the community in the Veenkoloniën], a local resident is interviewed about their feelings on the developments. His response shows the effects of what not sufficiently listening to the public can lead to: The dismissal of their concerns turns what could have been small points of attention into the total rejection of any development.

“People want windmills in principle, that is not the problem. They just don’t want to be offended by crudely placing windmills in their backyards, without them having a say. After a while, the village decided: “Go fuck off with your wind mills. If you want it like this, we don’t want them at all anymore.” This is how politics wastes away goodwill and cooperation of citizens.

–Local resident of the Veenkoloniën (Vlaanderen, 2021).

This represents the need to be attentive to citizen perspectives. In this documentary, the resident repeatedly tries to convey that they are reasonable people that would accept a windmill farm in principle if they were just listened to. Yet, the community is portrayed as if they merely oppose the development because it is close to the village. This is not a unique story: In many instances, concerns about developments are disregarded under the guise of this ‘Not In My Back Yard’ rhetoric (Brundrett, 2011). And that, while the goodwill and cooperation of citizens are on the line.

Even so, the transition towards more renewable energy systems is necessary in light of the climate crisis. The severity of the climate crisis is increasingly recognised: The most recent IPCC rapport established that human influence has already irrevocably changed the earth’s climate, having warmed both ocean and land and causing widespread and rapid changes in atmosphere, oceans, cryosphere and biosphere (IPCC, 2021). Moreover, these changes in climate are said to have confounding effects and irreversible tipping points. For example, the melting of the polar caps due to global warming leads to less global reflective surface area, which will in turn further accelerates global warming. Together, global warming, increasing sea levels, an increased prevalence and intensity of extreme weather conditions and overall environmental degradation will severely limit the earth’s liveability (McMichael et al., 2006). Not only will extreme weather events have adverse health effects in themselves, but they also negatively affect the security of food and water systems and the prevalence of infectious diseases. Conjointly, climate change already has, and will likely have further wide-ranging effects on society such as migration and refugee flows, malnutrition, mental health problems, injury and violent death. To prevent climate catastrophe, a radical reduction of harmless greenhouse gasses such as carbon monoxide is necessary (IPCC, 2021), which can in large part be achieved by transitioning to more renewable energy systems.

More topically, the war in Ukraine presses the need to revisit our energy systems. The dependence on Russia for energy has come under high scrutiny in the European Union. In 2021, Russian energy accounted for 77% of all European Union energy imports, costing around 99 billion euros (European Commission, 2022). As oil and gas revenues are the main income of Russia, European funds likely contribute to the continuation of the Russian war. Moreover, the instability of the world economy has shown the vulnerability of international supply chains

and the need for energy autonomy. The need for energy security and independence of Russian energy are key policy points of the European Union. While diversifying supplies could be part of the solution, the only long-term solution for energy security is the reduction of energy consumption and ramping up the production of green energy in the European Union.

Increasingly, citizens feel this urgency and take matters into their own hands. Citizen Initiatives could be a promising actor in realising this energy transition. Firstly, they provide a high rate of agency to citizens, something which is seen by many scientists as beneficial for success (Lennon, Dunphy & Sanvicente, 2019). Secondly, citizen initiatives could have transformative potential as they could act as a niche, a testing ground for how renewable energy technologies could be implemented in society (van der Schoor & Scholtens, 2015). Moreover, methods utilised by citizen initiatives could be used in other communities or scaled up for more widespread use (Lennon, Dunphy & Sanvicente, 2019). In particular, this research focuses on the LECO initiative in the Oosterpoort neighbourhood. This initiative has the ambition to make the Oosterpoort energy neutral or even energy independent. The Oosterpoort is an interesting case, as it exemplifies the complexities of realising the energy transition in urban environments. Urban neighbourhoods, such as the Oosterpoort are often relatively densely built up, leaving little space for communal renewable energy technologies. Moreover, many people live in urban environments, and these people may have conflicting perspectives on how the energy transition should be realised, and where (or whether) the technologies should be placed in the neighbourhood. A communicative approach, in which citizens come together to discuss their views, may be conducive to resolving these conflicts.

It is often assumed that there will be community acceptance of these citizen initiatives (van Veelen & Haggett, 2017). However, it is interesting to consider the perspectives of the people in the neighbourhood undergoing this energy transition. Why do people actually support or oppose certain developments? Which aspects of their personalities, or their connection to the place they live, would affect this attitude? This research, therefore, goes beyond simple explanations such as 'Not In My Back Yard!' And tries to learn why people support or oppose community energy initiatives. This is useful to know, to improve support and accelerate the energy transition.

1.2. Academic relevance

There is often wide public support for sustainable energy developments, yet local projects do often run into opposition. In the past, this difference has been dismissed with the NIMBY assumption, the idea that people simply do not want these developments in proximity to their homes. However, there is increasing evidence that this assumption often does not hold up in practice, and neither does this assumption explain *why* people do not want this. So, there is a need for an alternate theory that may explain the difference, considers the multiplicity of perspectives, and reveals which factors are relevant to shaping the local opinion.

In line with this, this research builds on the research of Devine-Wright, known for his research on public opposition and critique of the NIMBY assumption. Likewise, this research goes beyond the NIMBY assumption that is often used by both planners and academia. The study aims to uncover how people shape their perspective towards local energy developments, using the Oosterpoort neighbourhood as a case study. It tries to uncover and explain the breadth of perspectives that people may hold about local energy developments. Considering these citizens' perspectives might provide new insights and opportunities, and may be valuable to understanding community support and opposition to local energy developments. Thereby, it contributes to the theoretical debate on resident perceptions and community support for local renewable energy technologies.

Moreover, it adds to the research on place-based developments. Place-based development emphasizes the characteristics and meaning of places as a starting point for planning and

policy. Place-based policy is increasingly popular (Horlings, 2015). Place-based approaches acknowledge the power of people living there, being able to shape their environment. Likewise, this research takes a place-based approach, as the place and the people living there are a focal point of the research: It aims to uncover which and how place-based aspects play a role in community support of energy initiatives. By that, it contributes to the theoretical debate on place-based developments.

1.3. Societal relevance

To preserve a liveable climate and reclaim energy autonomy we, as a society, should transition towards more sustainable energy sources as quickly as possible. Since cities account for 75% of the world's primary energy consumption (*Energy | UN-Habitat*, n.d.), the transformation of urban energy systems could have an immense impact. This study provides a small piece of this puzzle, by expanding upon how citizens view this transition. At the least, the study adds to research on public opposition and support, topics important for smoothing over the process of implementation. Furthermore, it could highlight other aspects of the energy transition which are not typically considered but are important to the local citizens, such as energy democracy, energy justice, or energy poverty.

This study may be especially helpful for the initiative LECO, a citizen initiative which is trying to accelerate the energy transition in the Oosterpoort neighbourhood. Results may give indications of how the initiative could appeal to more people and increase its impact. Moreover, the study contributes to the construction of the Wijkenergieplan Oosterpoort. Findings from the research may be helpful for the development of this energy plan for the neighbourhood: The results may shed light on several aspects, such as the process of implementation or potential locations of technologies.

Moreover, the results of the research may be useful to guide other neighbourhoods undergoing the energy transition as well. Firstly, it could be relevant to community energy initiatives operating in similar circumstances. Secondly, the knowledge could be relevant for planning practitioners working on the energy transition. The research does so by shedding light on the factors that play a role in shaping local opinion. If these factors are sufficiently taken into account this may prevent opposition and smooth the process of implementation. Thus, this study is relevant in light of the necessary energy transition and has practical relevance for LECO and other citizen initiatives.

1.4. Research aim and questions

This study aims to provide insights into why people support or oppose local sustainable energy developments. Therefore, the main research question is: *“Why do people embrace or reject local energy initiatives?”* To provide an answer to this main question, several secondary questions are constructed, which can be found below. The first sub-question will be covered by a theoretical analysis of the current state of academic research on community support and opposition combined with results from the interviews. The second sub-question will be answered with the interview data. The third and fourth sub-question are formulated to shed more light on how these factors might influence attitudes. These are answered by combining literature with interview results.

- *Which factors play a role in shaping the perception of local sustainable energy initiatives?*
- *What are the attitudes that people have toward local energy initiatives?*
- *How do individual characteristics influence the attitude toward local energy initiatives?*
- *How do aspects of places influence the attitude towards local energy initiatives?*

1.5. Thesis outline

The succeeding chapter provides a theoretical framework. After which chapter 3 expands on the research methodology. In chapter 4, the results of the interviews are shown. This is further explored in chapter 5, where the results are analysed, placed in the wider academic debate, and conclusions are drawn. Chapter 6 discusses the findings and limitations of the research. Lastly, in Chapter 7 the references can be found.

CHAPTER 2. THEORETICAL FRAMEWORK

This chapter will elaborate on the concepts of local acceptance or support of community energy projects. It will begin with an introduction to what community energy projects are, and what sets them apart from other energy projects. After which, it is considered how local energy projects should be governed according to academic research. Following, it will consider what community acceptance is, and why it is relevant. After which, it will be assessed in four parts which and how aspects may play a role in the creation of community acceptance: Aspects relating to the technology, the process, the location, and the people themselves. In the end, the links between these various concepts will be synthesized and illustrated with a conceptual model.

2.1. Background on community energy projects.

In the literature, many synonyms for community energy projects are used, such as community energy initiatives, local energy initiatives, citizen initiatives, community energy and renewable energy communities (Germes et al., 2021). These terms encompass a wide variety of projects, that are initiated and organised by local citizens and which facilitate the transition towards a low-carbon energy system on a local scale in various ways, such as improving energy efficiency or the production of renewable energy (Germes et al., 2021). This research follows the definition of community energy projects by Walker and Devine-Wright: “formal or informal *citizen-led* initiatives which propose *collaborative* solutions on a *local basis* to facilitate the development of sustainable energy technologies and practices, producing *local benefits*” (Bauwens & Devine-Wright, 2018, p. 613).

Moreover, the term community has a wide variety of meanings. Walker (2011) explores what the role of the community is in low-carbon governance. He identifies six meanings, of which two are most relevant to this research: the community of place and the community as a network. A community as a place is defined as the set of social relationships embedded in a particular locality, which could for example be a neighbourhood. The other interpretation is community as a network, or community of interest (Bauwens & Devine-Wright, 2018). Communities of interest extend these place boundaries and are formed by networks and social relationships (Walker, 2011). For example, the network of people that emerges from the realisation of a local energy initiative. Thereinafter, if this study discusses the concept of community, it refers to community of place, unless stated otherwise. However, it is important

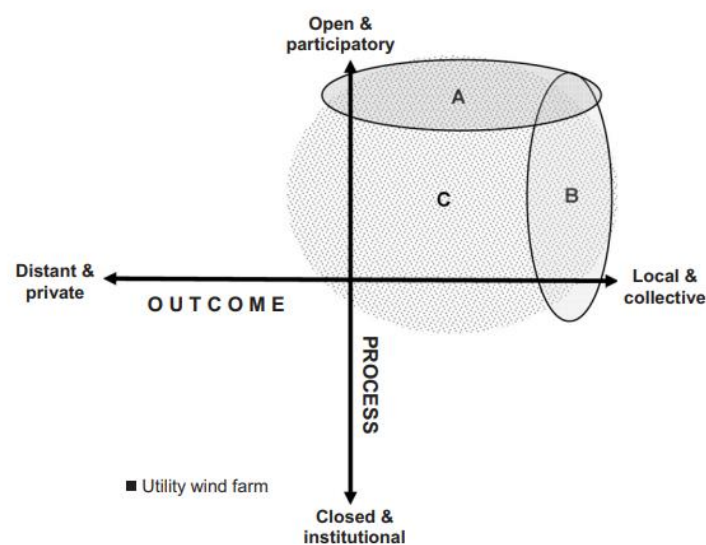


Figure 1: Positioning of renewable energy projects along process and outcome dimensions (Devine-Wright, 2008, p.497).

to note that places and communities are not synonymous, as some communities may extend

spatial boundaries, or there may be multiple overlapping or conflicting communities within a place (Walker, 2011).

It is interesting to explore further what differentiates community energy projects from regular energy projects. To illustrate the diversity of meanings of community energy projects, Walker and Devine-Wright (2008) position various projects against two dimensions, an outcome and process dimension. The process dimension concerns who a project is developed and run by, whereas the outcome dimension relates to how outcomes are spatially and socially distributed, and who the project is for. This is illustrated in Figure 1. All community energy projects are positioned in the upper-right quadrant. They pose that the 'ideal' community project, entirely produced *by* and *for* local residents, is positioned in the top right. The letters relate to different viewpoints on community renewable energy. Viewpoint A focuses on the involvement of the local community in the process, whereas viewpoint B focuses on how the benefits of the projects are distributed across the community. The third viewpoint C is more open in its form, being more concerned with actualisation than either process or outcome. This is all contrasted with a utility wind farm, which could be considered the opposite of community energy projects.

However, I would like to highlight important critiques made by Creamer et al. (2019) regarding this positioning. Firstly, the separation between process and outcome implies that they are independent, even though this is not the case in practice. For example, collectively shared benefits often come about in a participatory process. This intertwining of concepts is exposed in their revisited model, in which they added the word 'local' on both the outcome and process axes. Secondly, there is a critique based on justice concerns: Community energy projects are not necessarily inclusive to all members of the community, and therefore benefits are not necessarily shared collectively throughout the community where they are located. So, having spatial and social distribution on one axis might hide justice concerns. Yet, some entwining is insurmountable, as they attempt to capture both *process*, *distribution of benefits*, and the *proximity to the development* in one graph.

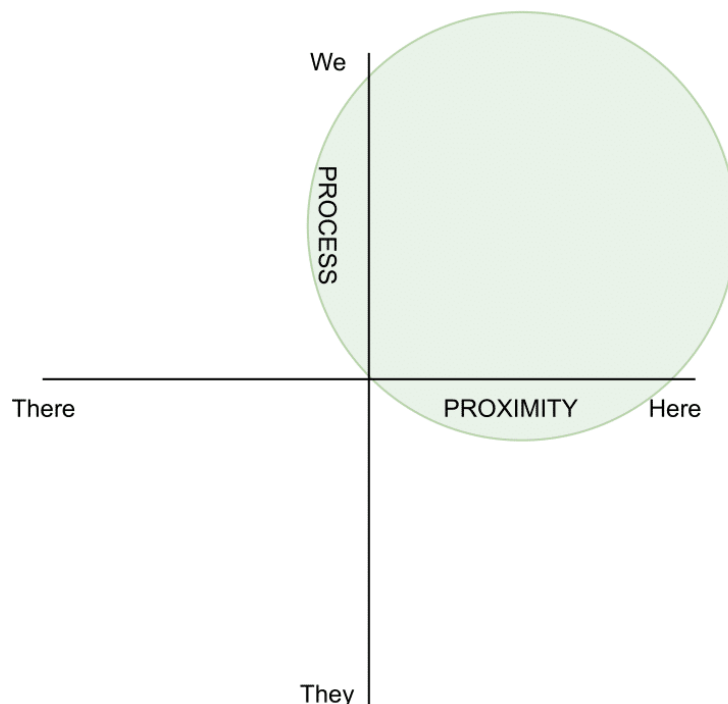


Figure 2: Understanding community energy projects along process and proximity dimensions (own figure, inspired by Devine-Wright, 2008).

The choosing of axes remains mainly a personal preference. For the purpose of this research, it was decided to position energy projects in a slightly different way: along a process (WHO) and proximity (WHERE) dimension (Figure 2). This illustration is relevant, as it will be used later on in this research to compare the desired energy project of the residents to the present community energy project. The process dimension relates to who is involved in the realisation of the projects. This dimension reflects to what extent citizens participate (WHO) – and to what extent the benefits likely accrue to the community. The second dimension considers the spatial proximity of the project to the respective community (WHERE): Is the problem attacked locally or elsewhere? It is important to note that by making this adaptation, the graph no longer explicitly shows how the benefits are socially distributed. Yet, in most instances, this corresponds with the people involved in the project. Most community energy projects are positioned in the upper-right quadrant.

2.2. The best rationale for community energy projects?

Moreover, it would be interesting to consider whether a collaborative approach, used in community energy initiatives, would be the most effective way to approach the local energy transition. The different approaches in planning largely follow the broader philosophical debate around rationality. On the one side, Modernists believe that there is one absolute universal truth, which can be discovered through the scientific method (Allmendinger, 2017). Later on, this belief was critiqued by post-modernists, who questioned the existence of objective truth: Surely, the truth lies in the eye of the beholder. They believe that society is immeasurably complex, with many diverse individuals with different belief systems, which would make the quest for knowledge would be pointless. Late-modernist Habermas created a solution to this impasse: Communicative rationality. He states that people ‘make sense’ of the world by interacting with one another, creating an ‘agreed-upon’ reality. So, knowledge considered an inter-subjective understanding, which can be reached through open discourse and interactions.

Traditional planning has been dominated by the technical-rational perspective (de Roo & Voogd, 2019), which aligns with a modernist rationale. Planners saw themselves as having access to ‘expert knowledge’, and thus they knew ‘objectively’ what was best for society (Allmendinger, 2017). Issues were reduced to a generic approach in which the planner both set goals and maximised these. However, the role of politics was downplayed by planners: Plans were proposed as if they were ‘value-free’, even though their decisions are inherently political. For example, renowned urban planner Robert Moses’ plans to build the Lower Manhattan Expressway were proposed as rational, while the realisation of this highway would imply the razing of entire minority neighbourhoods and eviction of thousands of families (Tyrnauer, 2016).

An alternative approach, more aligned with late-modernist beliefs is proposed by Healey in her article ‘Planning through debate: The communicative turn in planning theory’ (Healey, 1992). She suggests a new direction in planning: “A new form of planning through interdiscursive communication, a way of ‘living together differently through struggling to make sense together’”(p.152). As knowledge is created through the exchange of perceptions and understandings, drawing onto the life experience and consolidated cultural and moral knowledge of the participants, the purpose of planning should be discovered and understood through discursive processes. The challenge, according to Healey, is finding ways to come to a consensus, while acknowledging and considering the entire plurality of perspectives.

To tackle the question of which of these rationales would fit community energy projects the theory of de Roo immediately comes to mind. De Roo (1999) shows how to find the rationale that best fits any planning issue by employing the *degree of complexity*. He poses that you could align projects along two dimensions: goals and actors, which is illustrated in the graph above (Figure 3). In relatively straightforward situations, where people agree on the problem

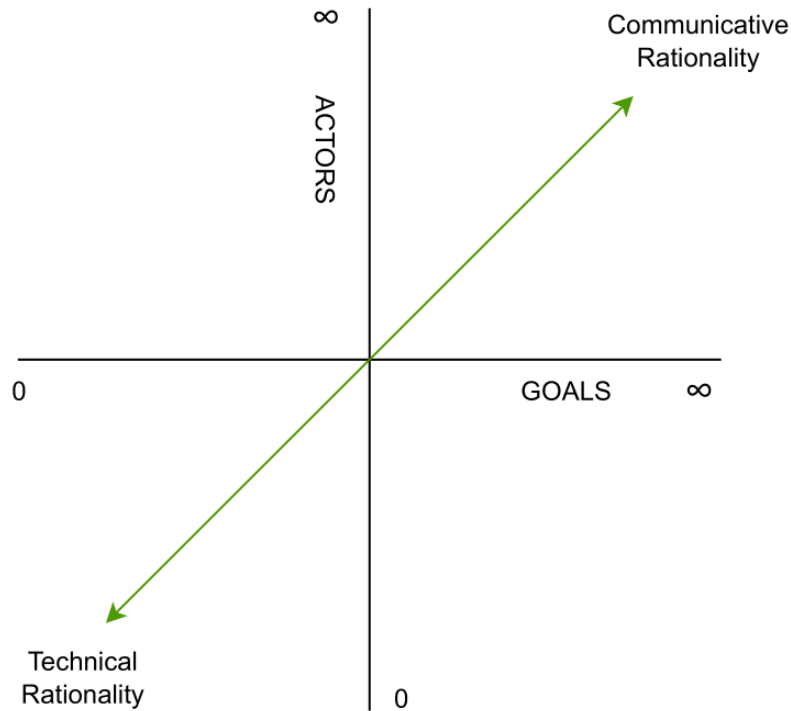


Figure 3: Figure 3: Best fitting planning rationales, based on actor and goal dimensions (own visualisation of de Roo, rotated 90 degrees).

definition and its conditions, a technical rationale can be especially effective. While, in a situation with various stakeholders and/or multiple or conflicting goals, a technical approach would be unrealistic. A way forward would be a communicative approach, in which the actors involved can create a shared perception of the issue before discussing potential solutions. De Roo illustrates this with the line from technical rationality to communicative rationality. The further that one deviates from this line, the less effective the planning approach would be for the particular planning issue.

Followingly, we could attempt to position the planning issue of the energy transition of neighbourhoods such as the Oosterpoort in this graph. First off, there is a multiplicity of potential motivations (WHAT) that lie behind the general desire for an energy transition. Some goals may be more universal, such as the reduction of harmful emissions or independence from Russia. Other goals, may be more narrow, such as the price reduction of the energy bill, the reduction of energy poverty, energy autonomy of the neighbourhood, or independence from big corporations. Additionally, participation in community energy initiatives may be a goal on its own, for example, the intention of working together as a community. Secondly, many stakeholders are affected by the energy transition of the neighbourhood. Altogether, it can be seen that this complex issue can be placed somewhere in the upper-right quadrant, for which a collaborative approach will indeed be most effective (HOW).

2.3. Background on general and community acceptance.

Social acceptance is the active or passive approval by the public of a certain policy or technology (Bertsch et al., 2016). It is a very broad concept. This research follows the typology of Walter (2014):

1. General acceptance (or: socio-political acceptance (Wüstenhagen et al., 2007)): The general acceptance of energy technologies within the country.

2. General acceptance in the vicinity (or: specific attitudes (Jones & Eiser, 2009)): The general acceptance of energy projects within their vicinity *in principle*, regardless of project characteristics.
3. Local or project-specific acceptance (or: community (Wüstenhagen et al., 2007)): The specific acceptance of renewable energy projects by the local residents and authorities.

In practice, achieving sufficient social acceptance is one of the most considerable hurdles to achieving renewable energy targets (Segreto et al., 2020; Wüstenhagen et al., 2007). Community support is important to prevent public opposition (time-consuming and costly), and to enhance the potential impact of the implementation (Lennon et al., 2019). Even so, it has often been treated as a residual problem by planners in the past (Wüstenhagen et al., 2007). Lennon et al. warn: “continuing to provide lip service to or indeed ignoring citizen perspectives of the energy system will become more costly and time-consuming and already threatens to significantly slow down Europe’s energy transition” (2019, p. 2).

Intuitively, generally positive attitudes toward renewable energy would be a predictor of project-specific support. However, there is ample evidence that this relation is not so clear-cut (Bell et al., 2005, 2013; Jones & Eiser, 2009; van der Horst, 2007; Walter, 2014; Wüstenhagen et al., 2007). This phenomenon, where general acceptance of renewable technologies does not seem to translate to project-specific acceptance, has been called the ‘social gap’ in environmental research (Bell et al., 2005). There have been several (not mutually exclusive) theories which attempt to explain this difference. It is of note, that research on the social gap heavily relies on large-scale wind energy developments. Yet, I would argue however that these social theories explaining the gap may be extended to other renewable energy projects as well (Bell et al., 2013). The first four theories are proposed by Bell et al. (2005, 2013) and the last is proposed by Bidwell (2013):

1. The democratic deficit: There is a vocal minority that opposes development and that is able to dominate the public debate.
2. Qualified support: People accept energy projects on some general conditions. So, they will support energy project that meet these requirements and oppose developments that do not.
These criteria might for example concern fairness of the decision-making process and outcomes or the effect on the landscape, animals or people.
3. NIMBY: People accept energy projects in principle, but they reject developments in the vicinity of their homes out of self-interest. This explanation is very commonly used and heavily criticized.
4. Place-protection: People oppose projects only in certain places because they feel these places have some inherent value which they want to protect. They do not oppose developments in other places that do not hold this value. This is different from the qualified support explanation since these conditions are place-dependent whereas for qualified support they are not.
5. Information deficit model: The assumption that public opposition to energy projects derives from a lack of quality information. By providing sufficient information, citizens would respond accordingly. This prevalence of the information deficit model is debated: While there is some evidence that sufficient information benefits public support, others find that people rarely adapt their behaviour in face of new information (Bidwell, 2013; Lennon et al., 2019).

Especially for community energy projects, it is often assumed that there will be community acceptance (van Veelen & Haggett, 2017). Intuitively, this makes sense as (1) the developments are likely to be small, (2) it is presumed inhabitants engage in the process and/or benefits of the project are shared collectively and (3) projects are likely more attentive to local concerns

(van Veelen & Haggett, 2017). Yet, this need not be the case. At the least, it would be interesting to challenge these assumptions and reflect on these theories for community energy projects.

Considerable research on public opposition to renewable energy technologies has been done by Devine-Wright (Brundrett, 2011). He identified three lenses that have generally been taken on public opposition: *What*, *how*, and *where*. The first lens focuses mainly on the renewable technologies involved, their benefits and possible objective disadvantages, the second lens considers the process of implementation, and the last lens relates to the location where the technology is implemented. He considers all of these aspects to be important for explaining public opposition.

2.3. The first lens: What?

The first lens, *what*, will only be touched upon shortly. There are many technologies that could be adopted in an urban neighbourhood to facilitate the energy transition. The supply of renewable energy could be increased with solar panels and windmills, and there are many technologies that could improve the energy efficiency of homes. All of these technologies have their own advantages and disadvantages, which are very context-dependent. Delving into the technical specifications of all these technologies would be out of the scope of this research.

Even so, these domain renewable energy technologies produce externalities upon their environment which likely affect social acceptance. Especially when placed in the public domain, it should be assessed which effects these technologies may have on their environment. Segreto et al. (2020) compare several case studies relating to social acceptance and various renewable energy technologies. They note that there are some effects specific to certain renewable energy technologies, such as environmental and human ecological concerns. Another specific effect is the acoustic emissions of wind turbines, which may be disturbing to people and animals in the vicinity. Other effects apply to most energy technologies, such as the visual impact on the landscape. They note that both solar and wind energy could negatively affect landscape character. Thus, the physical characteristics of energy technologies and their visibility should be carefully considered, especially when renewable energy technologies are placed in the public domain.

2.4. The second lens: How?

The second lens, *how*, considers the perception of fairness of the process by which the project is implemented and the distribution of benefits. The effect of perceived fairness is widely discussed by researchers (for example see Brundrett, 2011; Gross, 2007; Segreto et al., 2020; Walter, 2014). Perceptions of fairness from the public influence the legitimacy and the acceptance of the outcome (Gross, 2007). Unfair processes or outcomes could lead to protest, damaged social relationships, or even divided communities. Fairness is often discussed through assessing distributional and procedural justice; distributional justice relates to the perceived fairness of the outcomes, and procedural justice to the perceived fairness of the decision-making process.

Distributive justice concerns how the perceived benefits and cost of a project are distributed across society, the community, locals, and companies (Walter, 2014). These are not limited to financial aspects, and could also include broader themes such as quality of life and environmental and landscape effects. For energy projects, there is often a disconnect between the burdens that are felt locally, while the benefits of the project, such as reduced greenhouse gas emissions, are shared globally (Leer Jørgensen et al., 2020). Moreover, energy is often produced for the grid rather than the local community (Owens, 2004). In this respect, community energy initiatives may be interesting, as benefits are generally shared within the community. To improve local acceptance of energy projects, financial compensation can be a great incentive (Segreto et al., 2020). Financial incentives may even be necessary, as residents often expect at least some individual or communal compensation. Some projects try to

enhance community acceptance by offering compensation schemes (Leer Jørgensen et al., 2020). However, this should be done cautiously, as it may be interpreted as a bribe by the community. Additionally, a complicating factor is that people may assess fairness differently (Walter, 2014). Walter (2014) describes that the perception of fairness is dependent upon the principle of justice that is applied, which may differ from individual to individual. For example, some people may find it fair when shares are divided equally, whereas others may find it fair to distribute shares proportionally to input (equity). In his case study, he found that most people use the equality justice principle.

Procedural justice concerns the fairness of the decision-making process (Gross, 2007). Key elements of procedural justice are the right to participate, the ability to express opinions and be listened to, being treated with respect, access to adequate information, the decision-maker being impartial, and the ability to correct decisions when presented with new information. The perception of fairness depends on the extent to which these principles are present. In practice, the perception of procedural and distributional justice can not be nicely separated. People find procedural justice important because they believe that fair processes lead to fair outcomes. In line with this, people who feel that the process was fair are more likely to accept the outcome of a project, even if the outcome is unfavourable for them. Moreover, they are more likely to trust the actor or institution making the decision. Some scholars say that procedural justice is, therefore, more important than distributional fairness, yet most find that both are important to consider.

Trust is closely connected to procedural fairness (Wüstenhagen et al., 2007). Some scholars even discuss procedural fairness and trust in the same breath (Segreto et al., 2020). Community initiatives both need trust and have the potential to enhance trust; trust between people in the community is fundamental to civic engagement, and in turn, civic engagement can enhance interpersonal trust under the right circumstances (Walker et al., 2010). Huijts et al. (2012) explain that trust is especially important when the community has a lack of knowledge on the topic, as they have to rely on the assessment of others. High trust aids in the acceptance of uncertainties, and willingness to take on risks and explore opportunities. Important elements for trust are a transparent process, adequate information and community participation (Segreto et al., 2020). Other academics focus on the personal aspects of the decision-makers (Huijts et al., 2012; Walter, 2014; Wüstenhagen et al., 2007). Wüstenhagen (2007) mentions the ability of decision-makers to be flexible and have an open mind. Walter (2014) describes that people are more inclined to trust actors that are local, honest and competent. Moreover, Huijts et al. (2012) identify two key factors that determine trust in actors: the belief that they are competent and have good intentions. These beliefs are mediated by the similarity of the trustor to the trustee, as people believe that people similar to them will have goals and values aligning with their own. However, trust is very fragile: It takes effort to build trust, but it can be easily lost (Wüstenhagen et al., 2007). For example, Walker (2010) shows that, even for community projects, trust and community cohesion can be at risk. In one of their case studies, the community perceived the process and outcome of this project as unfair, and trust in the actors eroded. This led to a rift in the community between the initiators of the project and its opponents, having a negative impact on social cohesion. Thus, trust and the fairness of process and outcomes are essential to consider for community acceptance.

2.5. The third lens: Where?

Devine-Wright distinguishes between three perspectives that have been taken in academic research on locations of renewable energies: (1) Sites to be developed, (2) Backyards or NIMBY and (3) Emplacement (Brundrett, 2011). The first perspective focuses on the objective rather than subjective features of the environment. He strongly criticises this perspective, stating it reduces the complexity of the question and sidelines citizens in the decision-making process. As a result, decisions made on merely objective features often run into unexpected opposition.

“Locations of renewable energy projects are not merely sites with topographical, ecological or archaeological features; they are also places replete with memories, experiences, stories and myths that are as much a feature of any locality as the soil type, height above sea level or average wind speed. It is as if the siting perspective enables a blinkered gaze, stripping out certain aspects and concentrating solely on others. (p.59)”

The second perspective NIMBY, or Not In My Back Yard, relates to the hypothesis that there will be no support to renewable energy projects in close proximity of peoples’ homes out of self-interest. However, there has been much criticism regarding this approach. (e.g. Bell et al., 2013; Devine-Wright, 2009; van der Horst, 2007; Wüstenhagen et al., 2007). Devine-Wright (2014) describes how the NIMBY perspective reduces citizens’ genuine feelings and concern about the identity of place to be irrational, emotional, or overtly selfish. Moreover, he explains that NIMBY rhetoric is often used by project developers and other proponents to undermine the opposition. Next to this, results have often lacked to support NIMBY-theory. Yet, the NIMBY perspective is still frequently used by academics to explain public opposition. On top of this, it could be argued that the NIMBY perspective precludes neighbourhoods by design since technologies would always be in the proximity of someone’s backyard. Therefore, on top of the ample criticisms, the NIMBY approach is not considered helpful for explaining support for community energy projects.

In contrast, Devine-Wright (2014) argues for a third perspective: *emplacement*. For this perspective, the concept of place instead of space is central, place being the ‘lived experience of space’. This differs from the other perspectives since it considers both the objective and subjective aspects of locations. By engaging with the public, meanings and emotions that are associated with the place can be identified. These subjective experiences can be utilized to construct a narrative which resonates with the residents and prevents local opposition. In this way, the technologies are literally ‘put into place’. In line with this, academics increasingly consider the meanings and emotions associated with place crucial to explaining public engagement or opposition. Such as Manzo and Perkins (2006), who explored why people become involved in their community. They show that people are motivated to seek, stay in, protect, and improve places that are meaningful to them.

Various concepts are used to explain the different ways in which people assign meaning to places, such as ‘place attachment’, ‘place identity’ and ‘sense of place’. Place attachment refers to the positive emotional connection between people and place, for places where people are familiar (Manzo & Perkins, 2006). This can occur on various scalar levels, such as the home, the neighbourhood, and the region (Devine-Wright, 2009). Place attachment can be seen as a precursor for place identity (van Veelen & Haggett, 2017), which refers to the way in which a place contributes to a sense of self or identity (Devine-Wright, 2009). Lastly, ‘Sense of place’ can be seen as an over-encompassing concept, referring to the symbolic meanings and values people ascribe to places. It can be seen as the way people experience, use and understand place.

Devine-Wright (2009) explains that place attachment could explain community opposition: He regards local opposition as a form of place-protective action. In his view, opposition to projects arises when developments disrupt place attachments or threaten place identities. They show that people can experience feelings of anxiety or threat from anticipated or realised changes in their environment, which fuels their willingness to engage in ‘place-protective’ action. In general, it is considered that people having stronger place attachments will be more interested in neighbourhood developments, talk about them and possibly take action. However, he suggests that the beliefs about the development will decide whether this results in public opposition or support: If the developments are seen as place disrupting, it may lead to opposition, whereas if the developments are seen as place enhancing, people may support the project.

Furthermore, van Veelen and Hagget (2017) show that attitudes towards local developments are contingent upon the form of place attachment. In their research, they investigate the role of place attachment in the formation of attitudes towards community renewable energy projects. They distinguish between two dimensions of place attachment: physical and social. The physical dimension refers to the ways in which people rely on their physical environment for their daily activities, as well as the meanings they attribute to features of the environment. The social dimension contains the “presence of social ties, as well as the emotional connection based on personal, historical or cultural connections to the area” (van Veelen & Haggett, 2017, p. 4). They found that the way in which people feel attached explains a positive or negative association to community renewable energy projects: People emphasizing social attachment rather than physical attachments were more likely to support the developments. Moreover, like Devine-Wright, they highlight that the way the project is framed is critical.

Van Veelen and Hagget (2017) explore the role of different place attachments to attitudes towards community energy projects. They pose an interesting perspective: Rather than the time of residence, they pose that the extent to which someone is local is important. They pose that locals are more concerned with the actual functioning of a place and might thus be more open to opportunities, whereas newcomers often romanticise the area and want it to stay as how they found it when they first arrived. This is related to the time of residence, as ‘newcomers’ slowly become locals by engaging with activities within the community. However, it is different in the sense that some people may stay ‘newcomers’ if they live disconnected from the community. While this paper is written in a rural context, the different ways of thinking of ‘locals’ and ‘outsiders’ may be applicable to urban environments as well. Overall, the meanings and emotions people associate with places should be uncovered, especially when people hold strong attachments to these places.

Personal factors

Taking an emplacement perspective, place is inextricably linked to the community that resides there, as it is their subjective experience which is being considered. Therefore, the characteristics of the community could be important for social acceptance. This section will consider personal factors that might have an effect on the attitude towards renewable energy projects: socio-demographics factors, values, beliefs and norms.

Segreto et al. (2020) assess the factors that are in play for social acceptance by analysing several case studies throughout Europe. For socio-demographic factors, they found that education and age are most important: The acceptance of local energy projects decreases with age and increases with education level. However, they note that socio-demographic factors generally have a small to medium effect on local acceptance and that this could easily be mitigated by other aspects. Moreover, studies found that women are more likely to be concerned about the environment and potentially take action (Running, 2013). This study also states that a left-wing political orientation is correlated with environmental concern, but these studies are done in a US context, which may not translate to a Dutch context (relatively to the US, the whole Dutch political spectrum is shifted considerably to the left).

Next to socio-demographic factors, many researchers recognize that the differences in attitudes and behaviour can be explained by an underlying difference in values. Values are an integral part of our identity: They describe what we generally feel is important to us in life (Schwartz, 2012). As such, they transcend situations and are relatively stable over time. They refer to underlying goals that people want to attain in life, for example, self-enhancement or self-transcendence. It is generally accepted that the relative importance of values motivates behaviour or can explain attitudes. For example, Horlings (2015) describes that values influence peoples’ perception, appreciation and attachment to places, as well as their motivation to participate in place-shaping processes. Especially important for explaining pro-environmental behaviour are values of universalism, which describe the underlying goal of

preservation and attainment of welfare for all people (altruism) and nature (biospheric) (Steg et al., 2016; Stern et al., 1995). People who identify with these values are more inclined environmentally friendly (Gatersleben et al., 2014).

Another aspect that might be important for explaining environmental attitudes is the beliefs that people hold. A belief is defined as “trust, faith, confidence or acceptance that something is true” (Leichenko & O’Brien, 2019). Beliefs are socially and culturally constructed through experience and interaction. Values can shape beliefs, in the sense that they make people more attentive to certain perspectives (Stern et al., 1995). Followingly, beliefs have an effect on behaviour in several ways. Leichenko and O’Brien (2019) discuss how various views on nature might impact the way people adopt environmentally friendly behaviour. For example, someone who believes that nature is vulnerable will more likely treat the earth with care, compared to someone who believes that nature is resilient. Moreover, beliefs about the extent of influence one has on the present and future influences one’s propensity to act. There are numerous beliefs that could be important for someone’s attitude towards renewable energy projects. For example, scholars mention the belief in climate change and the severity of its consequences, whether one believes that there is anything that could be done, the extent of which one believes that the specific project will be helpful in combatting climate change, and the belief that the project will have a negative or positive influence on the local environment (e.g. Bidwell, 2013; Firestone et al., 2009). In line with this, Devine-Wright (2009) explains that the way the project is perceived is crucial: If people believe the project disrupts place, they are more likely to oppose the project.

Lastly, norms directly affect individual and societal behaviour. Norms refer to a shared understanding about how people should behave in society (Leichenko & O’Brien, 2019). Individuals accept or reject norms on the basis of their values and beliefs (Schwartz, 2012). However, people generally act in accordance to these societal expectations, since not acting according to them may have specific consequences. By performing these norms, they are continuously reproduced (Leichenko & O’Brien, 2019). Cialdini and Jacobson (2021) performed a meta-analysis looking at the effect of social norms on behaviour related to climate change and concluded that there is ample evidence that demonstrates that social norms are quite influential for climate change behaviour. So, people living in a community where many people are concerned with the environment and take action makes others in the community more likely to perform similar behaviour, which creates a positive spiral. This behaviour could be simple, such as taking shorter showers, or it may be more extensive, such as implementing solar panels on roofs. All in all, people make decisions to oppose or support a development partly based on their personal characteristics, such as their values, beliefs and norms. Thus, these aspects should be studied when looking at community acceptance.

2.6. Conceptual model

Based on the literature review the following conceptual model is proposed, summarizing all factors which contribute to the community acceptance of local energy initiatives. The factors are categorised in the three lenses: *what*, concerning the specifics of the technology, *how*, concerning the implementation of the specific project, and *where*, concerning the impact of place and residing community. All of these factors mutually determine social acceptance.

The first pillar, *what*, was only discussed shortly as it is not the focus of the research. This pillar concerns the technical specifications of the technology, the technical project specifics, and the externalities it imposes upon the environment. These are highly dependent upon the technology in question.

The second pillar, *how*, concerns the fairness of the process and trust. From the literature, it followed that the perception of fairness of the process and outcome may be crucial for community acceptance. The perception of fairness of the process influences the perception of

fairness of the outcome. Moreover, the perception of fairness is closely related to trust: a fair process improves trust and an unfair process has the potential to break this down. Trust is critical for local energy initiatives, as it is needed for initiatives to emerge.

The last pillar, where, concerns the impact of place and the residing community. It is believed that attitudes towards developments are formed by the ‘sense of place’. Sense of place is both dependent on the physical environment and the meanings and experiences attached to it. Sense of place encompasses both place attachment and place identity, where place attachment is seen as a precursor for place identity. The level of place attachments seems to show the intensity of feeling, and thus the strength of the attitude towards development. Whether a development is interpreted as positive or negative depends on the form of place attachment (physical or social) and is mediated by beliefs about the development. Values affect attitudes both directly and through influencing beliefs and a sense of place. Moreover, individual characteristics may affect how people experience place and form attitudes. Lastly, people may be influenced by the norms present in society.

community acceptance

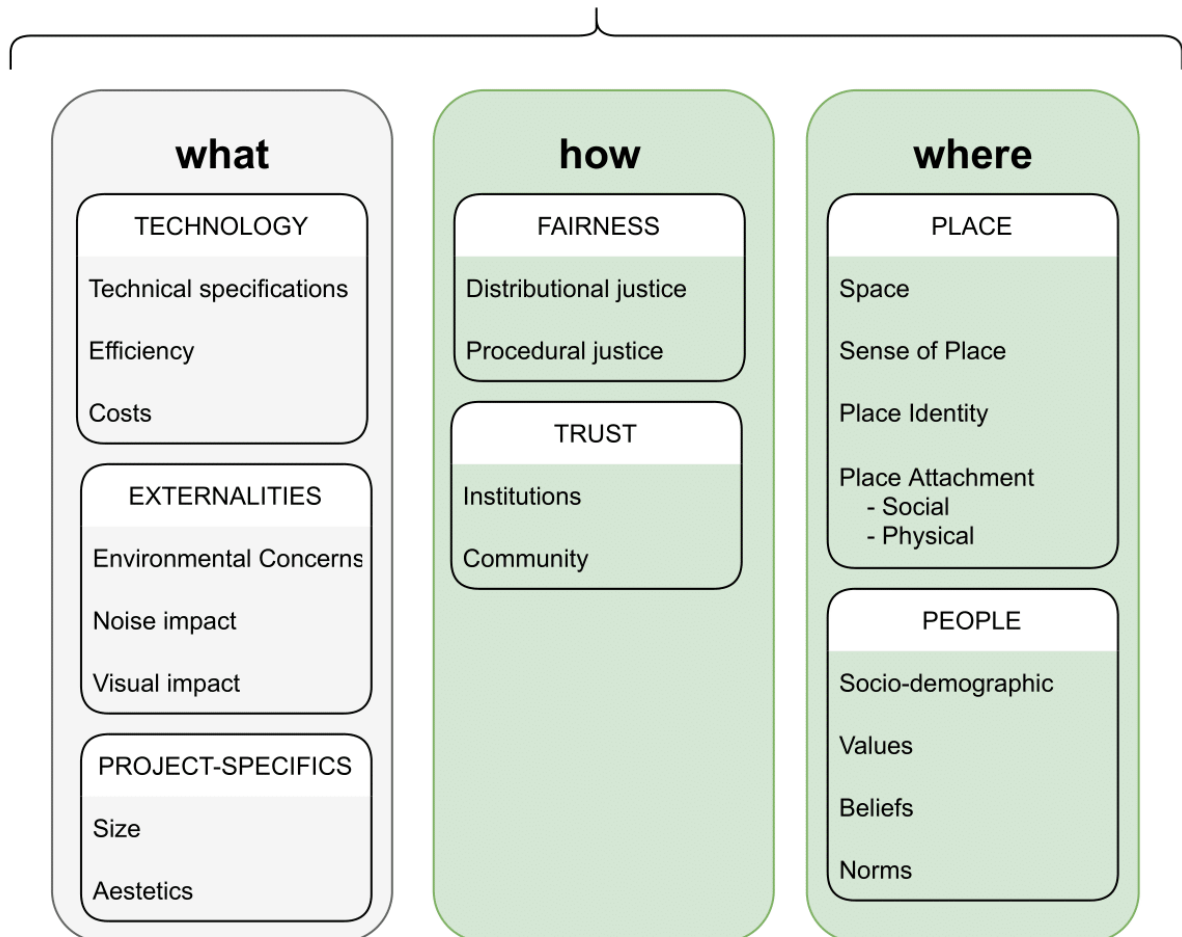


Figure 4: Conceptual model summarizing all factors contributing to community acceptance for local energy initiatives identified in the literature review (own figure).

CHAPTER 3. METHODOLOGY

3.1. Research strategy

This research aims to gain insights into how people form their attitudes toward local energy initiatives. In this chapter, the methodology used to answer the empirical part of the main research question: “*Why do people embrace or reject local energy developments?*” is discussed.

The research strategy is based on social constructivist claims to knowledge: The belief that knowledge or truth is created through interactions with others, which makes the meaning people attribute to objects or experiences critical. To allow for an in-depth analysis of citizen perspectives within its situational context, a single case study approach is chosen. From the literature review, it followed that various highly context-dependent factors are relevant, such as trust, place, attachments, values and beliefs. These concepts are particularly difficult to quantify, and the line between these concepts and their context is difficult to discern. A single-case study design could provide an in-depth understanding of these concepts. This case study follows a qualitative approach, with literature research and walk-along interviews. The main benefit of this qualitative approach is that it goes more in-depth than quantitative research: It has the potential to provide nuanced insights into people’s experiences and perspectives.

The main method is the walk-along interview. Walk-along interviews are a relatively new, yet promising, method within the academic community (King & Woodroffe, 2019). The walk-along interview is a method in which the researcher walks along with interviewees while conducting the interview. It provides an opportunity for the researcher to explore people’s experiences of their local residential context (Carpiano, 2009). As this research is interested in peoples’ experience of place, this method is particularly fitting. Additionally, the interview structure is less formal and may appeal to people that might not otherwise feel inclined to participate.

Moreover, the act of walking through the neighbourhood might improve the flow of the conversation, as topics might arise while walking (King & Woodroffe, 2019). To ensure that there is room for flexibility of conversation, it is decided to do semi-structured interviews. Relevant topics raised by interviewees can be followed-up on, and questions that emerge can be raised. It allows for a more personal conversation, which may make it more likely for people to give answers which reflect what they really think, feel or believe (Farthing, 2015).

The interview data is grounded in literature research to make it more generalisable and place the research within the academic debate. This is supported by secondary quantitative data on attitudes toward local renewable energy technologies, derived from a survey set out by Grunniger Power. The secondary data is used to provide context to the case and is compared with the outcomes of the interviews. Afterwards, the outcomes of the study are compared to other studies on community acceptance. Combining these methods improves the reliability and validity of the results, a process known as ‘triangulation’. Together, this approach will provide extensive insight into the development of attitudes toward energy projects.

The main unit of analysis are the local residents of the Oosterpoort neighbourhood. Furthermore, the unit of analysis, or the case, is determined by defining spatial boundary, theoretical scope, and timeframe (Yin, 2009). The analysis will be conducted within the administrative boundaries of the neighbourhood ‘the Oosterpoort’, as this is the area in which the energy initiative ‘LECO’ currently operates. Even though the area people consider their neighbourhood might transcend these administrative boundaries, it is chosen to adhere to the boundaries for practical purposes. The immediate topic will be the attitudes of people towards local renewable energy technologies, and how these are constructed through the interaction between people and place. The theoretical scope of the research is based on the literature, which will assess the factors in play with community acceptance and neighbourhood

perception of local energy technologies. To delineate the theoretical perspective; emphasis is on the aspects important for creating attitudes towards renewable energy technologies, rather than the specific technology in question and its technical benefits. Key factors that will be looked into are the sense of place, values and beliefs. The research will run from 11-2021 until 08-2022.

3.2. Case selection

The case is selected on the basis of the information it is expected to provide: The Oosterpoort neighbourhood provides an opportunity to look at an unusual case. Atypical cases could bring forward information that could test the limits of existing theories or aid the development of new concepts, variables and theories (Flyvbjerg, 2011). In this way, obtaining information on the community acceptance of a local energy initiative in an atypical neighbourhood like the Oosterpoort could provide useful fur understanding community acceptance of local energy initiatives overall.

The neighbourhood is not a typical neighbourhood in several ways. Firstly, there is a lack of space in the neighbourhood for energy technologies, making it likely that finding locations for energy technologies would be contested. Secondly, the neighbourhood has a high share of older buildings, having much cultural and historical value. Lastly, people in this neighbourhood generally have high place attachments, so it could be expected that people would be invested in the developments in the neighbourhood. In the following sections, the case will be explored in more detail.

3.3. Case description of the Oosterpoort neighbourhood

In the following section, the context of the case study will be introduced. The Oosterpoortbuurt is a 19th-century neighbourhood South-East of the centre of Groningen. It is clearly

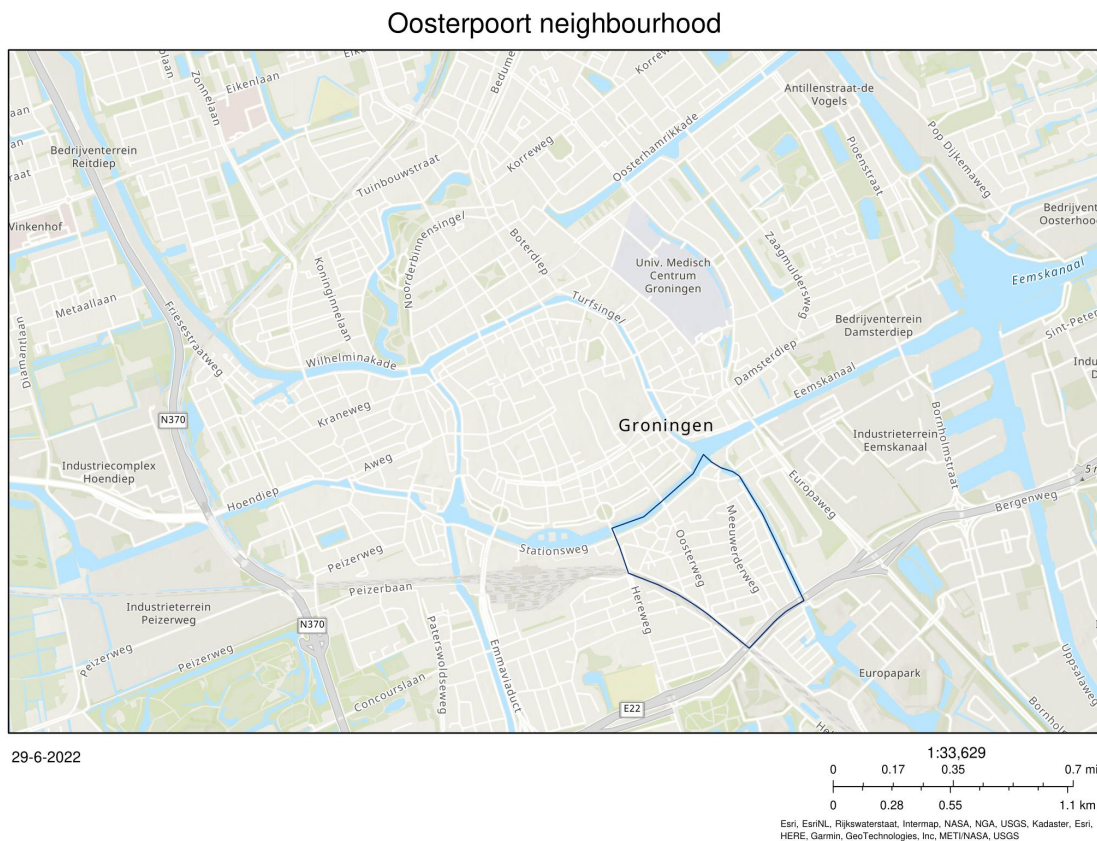


Figure 5: Map of the location of the Oosterpoort neighbourhood, Groningen (own map).

demarcated by the Winschoterdiep, the ring road and the railroad Groningen-Assen. The neighbourhood, in relation to the rest of Groningen, can be seen in Figures 5 and 6.

This neighbourhood has a very rich history. It is named after the old “Oosterpoort”, the former east city gate providing access to the city (Offerman, n.d.). Around 1830, when the city became too densely populated, people started to settle in the area out of necessity, even though construction was forbidden south of the city walls: In times of war threat, the area had to be razed to the ground. The Oosterpoort as we know it right now was mostly shaped in the 1870s. The city provided a street plan, whereafter private investors provided housing. It was characterised by revolution building: the neighbourhood was built without long-term vision, without much urban planning. The properties were of low quality and were rented out for relatively high prices. Inhabitants that lived in the area at the time were mainly working class and small business owners. Liveability was low, yet it was better than the inner city centre.

In some parts of the neighbourhood, history can still very much be seen. Firstly, one special part of the neighbourhood is the Brandenburgerbuurt. It was built in the 1870s by the first social housing corporation of Groningen. It was built with the aim of improving living conditions and public health and making a profit in the process. Houses were of better quality than other parts of the neighbourhood. Yet, rents were also higher as well, which meant that only 20% of the population at the time were actually working class-citizens. This part of the neighbourhood has a very characteristic feel and has cultural value for the neighbourhood. Around the same time, a villa park was built on the former city walls. The shape of these walls can be seen back in the structure of the streets. The streets divide the area into green islands, on which mansions are built in various architectural styles. At the time of building, these were homes for the elite, yet nowadays they are mainly utilised as office spaces.

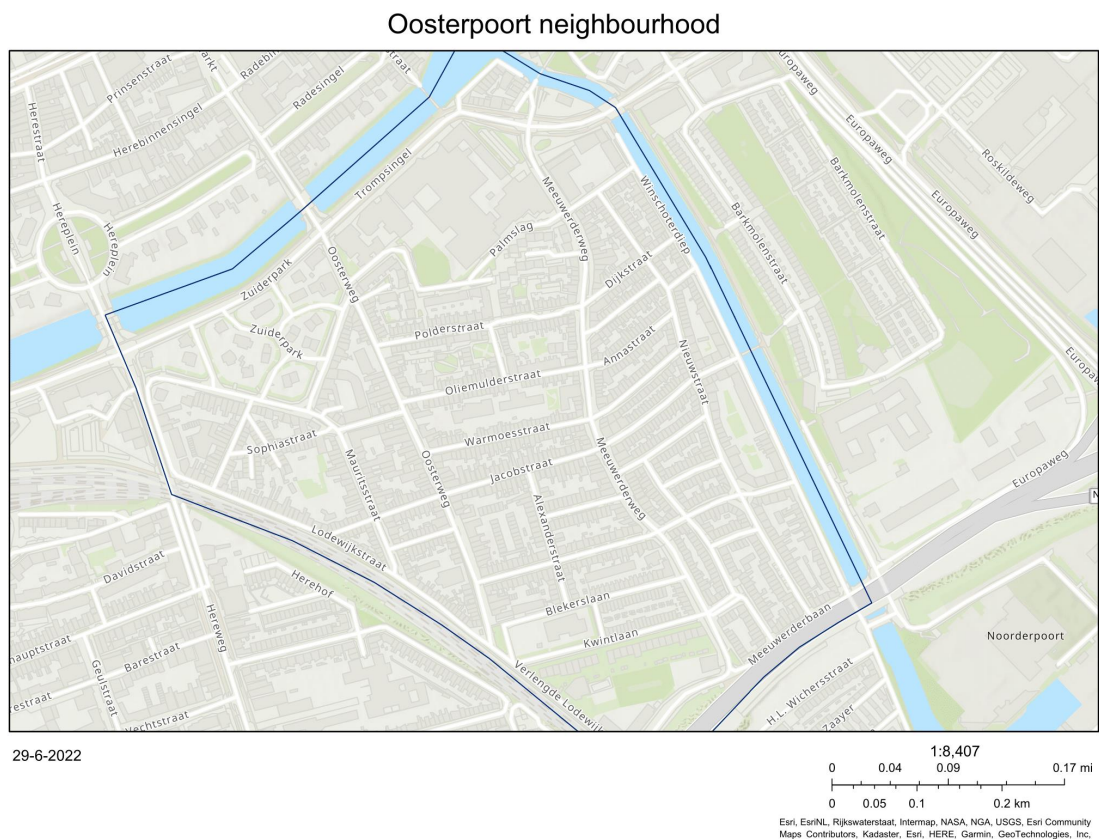


Figure 6: The Oosterpoort neighbourhood (own picture).

The Oosterpoort is a relatively young neighbourhood loved by many students. The population pyramid can be seen in Figure 7 (Gemeente Groningen, n.d.). The people in this neighbourhood have various education levels: 49% have obtained higher education (HBO or WO), 41% have obtained middle to high education (MBO, HAVO, VWO) and only 10% have a low education level (no education till MAVO) in 2020. These numbers are relatively comparable to the municipality of Groningen overall (respectively, 43, 40, and 17%). However, people in the Oosterpoort have a relatively low monthly income compared to the rest of the municipality (Basismonitor Groningen, 2020). An explanation for this might be that many students live in the neighbourhood and the population is relatively young.

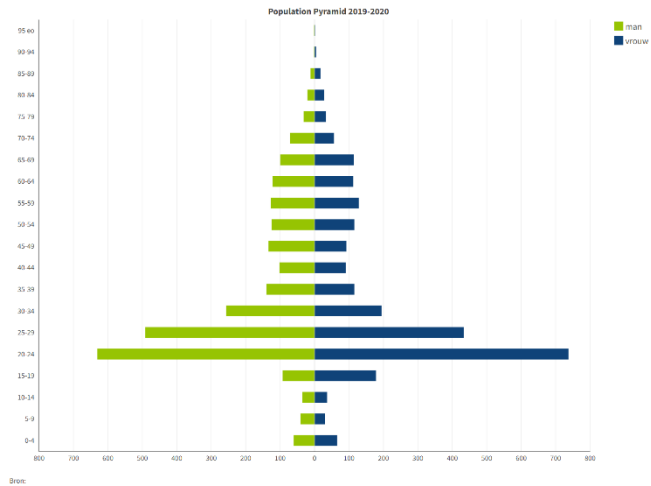


Figure 7: Population pyramid of the Oosterpoort (Gemeente Groningen, nd).

It is a relatively built-up neighbourhood, with relatively small apartments. The neighbourhood has a very high building density of 69 dwellings per hectare, which is significantly higher than the rest of the south borough (12.5 dwellings per hectare) (Gemeente Groningen, n.d.). Most buildings are low-rise, there are some mid-rise buildings. Compared to the rest of Groningen, the Oosterpoort neighbourhood has a significantly higher share of pre-war and older buildings. Most buildings are built before 1915 (56%), 10% between 1915 and 1945, 16% are built after 1945, and 18% are built after 1985. This could be a complicating factor for the energy transition of the neighbourhood, as older homes are generally not energy efficient, and improving this is likely costly. Additionally, only 35% of homes are owner-occupied, 26% are private rentals and 35% are social rent. Compared to the whole of Groningen, the Oosterpoort has a relatively small share of owner-occupied homes, and a large share of private rental homes (26%), which might complicate the energy transition in the neighbourhood. Arguably, homeowners and social housing corporations are more willing to make investments for improving the sustainability of their homes, as they may profit of this in the long run. People that rent their place from private owners may be less inclined to invest in their homes.

To give an indication of how sustainable these homes currently are, we look at the average gas use of these homes (see Figures 9 and 10). In absolute figures, homeowners use the most gas, followed by private, and then social rent (CBS, 2020). In the Oosterpoort, less gas is used than in the rest of Groningen. This is likely explained by the sizes of these homes: Homeowners have larger homes, and houses in the Oosterpoort are smaller than the rest of Groningen. If we look at the relative sustainability of homes, another picture arises. Homes of homeowners and social rent are more

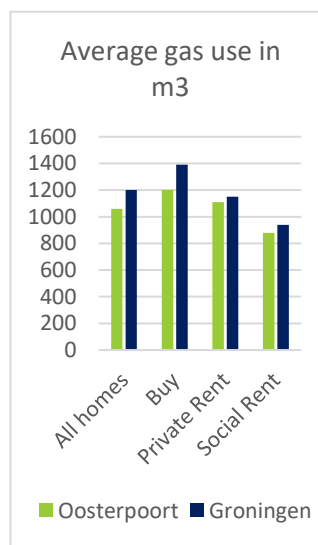


Figure 9: Average gas use in the Oosterpoort and Groningen in m3 (CBS, 2020)

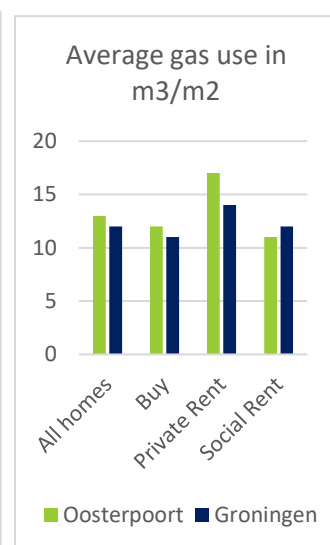


Figure 8: Average gas use in Oosterpoort and Groningen in m3/m2 (CBS, 2020).

energy sufficient compared to private rental homes.

3.2.1. The LECO initiative and Oosterpoort Duurzaam
Involved inhabitants set up Oosterpoort Duurzaam to promote a green, liveable and sustainable neighbourhood. This association tries to actively engage local inhabitants and provides information with its website and weekly newsletter. Additionally, Oosterpoort Duurzaam has two neighbourhood teams that focus on climate adaptation and sustainability from separate angles. One team focuses on supporting biodiversity and liveability by improving green space. They support sustainable initiatives such as façade gardens, insect hotels and ‘boomkransen’. Another team focuses on accelerating the energy transition in the neighbourhood. They support and advise inhabitants about improving the sustainability of their homes and the possibilities to generate sustainable energy, both individually and collectively.

To reach this goal, this team set up the local energy cooperation Oosterpoort Duurzaam or LECO. The LECO has the ambition for the Oosterpoort to be a neighbourhood where energy is sourced sustainably and which can be self-sufficient to an extent. To achieve this goal, they became a reseller of EnergieVanOns, an overarching energy corporation supporting many sustainable local energy initiatives throughout the Netherlands. This means that inhabitants of the Oosterpoort can become a customer of EnergieVanOns through LECO. EnergieVanOns supplies sustainable energy, and part of the generated revenue is used to finance sustainability projects in the Oosterpoort. Currently, LECO is at the outset, trying to gain traction and appease to inhabitants.

Furthermore, the LECO is writing an energy plan for the neighbourhood in corporation with Grunniger Power, an energy corporation from Groningen, and Natuur en Milieufederatie Groningen, an environmental organisation from Groningen. In this plan, concrete goals will be presented and measures will be tailored to the neighbourhood. The initiative actively seeks input from Oosterpoorters for the content of this plan.

Grunniger Power set out a survey, which is further described in chapters 3.2.3. Respondents were asked what the focus of Oosterpoort Duurzaam should be. Most respondents wanted more green (79%), followed by improving the sustainability of homes (64%) and generating energy (63%).

3.4. Data collection

3.4.1. Literature analysis

A literature analysis was done to assess the current level of knowledge on the attitudes of people towards local energy technologies and the factors that could be in play to shape these attitudes. The literature review only considered published scientific articles and academic books, which were found through a literature search on the platforms SmartCat, and Google Scholar. Initially, key search terms were restricted to public support, public opposition, local energy initiative and community energy initiative. Later on, as key factors were identified from the literature they were added to the search terms: sense of place, place attachment, place identity, values, norms and beliefs. Especially the writings of Devine-Wright, a scholar who



Figure 10: The logo of Oosterpoort Duurzaam (Oosterpoort Duurzaam, 2021).



Figure 12: The logo of LECO (Oosterpoort Duurzaam, 2021)



Figure 11: The logo of EnergieVanOns (EnergieVanOns, n.d.)

published extensively on this subject, provided a good starting point for analysis. From these articles, additional literature was found by a process of snowballing, where references of interest were assessed. Next to this, grey literature was utilised to describe the Oosterpoort neighbourhood and the LECO initiative.

3.4.2. Semi-structured interviews

The primary data collection consisted of semi-structured walk-along interviews. For the interview sample, the aim was to find a sample that represented the extensity of perspectives present in the Oosterpoort community. Therefore, an active attempt was made to find people with diverse personal characteristics such as age, gender, education level, background and other relevant factors such as; time of residence, tenure, and relation to the initiative. Yet, walk-along interviews have the general limitation that only people with adequate mobility can participate. To overcome this, less mobile people that were interested were given the option to join with the assistance of a wheelchair or for the interview to take place in their home.

To improve the data collection, the interview was practised with a peer beforehand. For the first round, people known by the researcher were contacted as it was expected that they were willing to participate. For the second round, flyers were distributed in person for the 5th door of every street. The bell was rung, and if the person was willing an appointment was made. If the person was not available or did not want to participate, the researcher moved to the next door. Additionally, flyers were left at central places such as the local supermarket and the neighbourhood centre, they were distributed at meetings of Oosterpoort Duurzaam and were posted on their website. Moreover, after every interview, participants were asked whether they knew someone willing to participate. This eventually led to the following six participants:

Table 1: Participant characteristics.

	AGE	GENDER	TIME OF RESIDENCE	TENURE	INTERVIEW DATE AND TIME
P1	42	F	15 years	Buy	10/05 15:00
P2	54	M	13 years	Buy	12/05 16:00
P3	47	M	15 years + student life	Buy	16/05 10:00
P4	58	M	30 years	Let	18/05 11:00
P5	72	M	30+ years	Buy	22/05 14:00
P6	63	F	30 years	Let	09/06 11:00

The interviews took place in the form of a walk through the neighbourhood. The interviewees were asked to take the lead and guide the researcher, as they are seen as experts of the neighbourhood. The walks were logged with Google Maps. Since memory is fallible and to ensure transparency, the walks were recorded if consent was given. For the interviews, introductory questions were used to get to know the interviewee and make them feel at ease with the researcher. Followingly, the themes that are presented in the conceptual model were discussed. All questions were open-ended and were posed in such a way that they did not indicate a certain direction of an answer. Additionally, the semi-structured nature of the interviews provided room for the researcher to ask questions that emerged during the interview. At the end of the interview, interviewees were given the opportunity to ask questions to the researcher about their opinion, which oftentimes resulted in an interesting discussion. The full interview guide can be found in the appendix. To give an example, the interview contains several questions aimed to uncover people’s place attachments. One of these questions is: “Do you feel connected to the neighbourhood (and how)?”. Followingly, additional probing questions are given to provide further information, such as “Do you feel connected to Groningen/the Netherlands/Europe?” or “Do you feel a connection with the people living here?”.

3.4.3. Survey, secondary data

To provide additional context on the support of renewable energy technologies in the neighbourhood, secondary data is used. This data was collected with the aim of uncovering the support for renewable energy technologies in the neighbourhood by Grunninger power as commissioned by the LECO initiative. Most questions were related to the different technologies that could be implemented. It was acquired in the form of a questionnaire, in which residents were asked to indicate whether they would be willing to adopt several technologies. Flyers that linked to the survey were distributed at several points in the neighbourhood, such as the neighbourhood centre 't Purthuys. Moreover, it was available on the website 'Oosterpoort Duurzaam' and distributed in their newsletter. However, it should be noted that people responding to the survey on their own account might be more interested in the energy transition or energy savings (the terminology used in the flyer) than the overall population from the Oosterpoort. Therefore, the survey results might be biased positively concerning energy technologies.



Figure 13: Flyer linking to the survey of LECO (own picture).

The preliminary results of the survey will be used, as the concluding results are not in before the thesis deadline. The provisional number of respondents is 149 respondents, of which 108 completed the survey completely. Of those respondents 127 (85%) stated that they lived in the Oosterpoort neighbourhood, 14 indicated that they lived in other areas where the Oosterpoort Duurzaam was active, and 8 did not indicate an answer. The group of respondents is not representative for the Oosterpoort as a whole: The sample has more older people, more highly educated people (86%) and homeowners (76%) compared to the Oosterpoort overall. Yet, it could still be useful to make an indication of the preferences of the people living there.

3.5. Data analysis

3.5.1. Literature analysis

The literature is presented in the theoretical framework in chapter 2.

3.5.2. Semi-structured interviews

The analysis of the interviews was done in the following way. Firstly, the route of the walk was logged, points of interest were highlighted. Next to this, key points of conversation were noted. Afterwards, the recordings of the interviews were transcribed. It is chosen to transcribe true verbatim as in this way, the true essence and context of what is said are captured. However, background noises were not transcribed to improve the readability of the transcripts. Any personal identifiers that were not permitted were removed to ensure the anonymity of the data. Followingly, these transcripts were analysed and coded with the program 'Atlas.ti'. Coding is the act of assigning labels to text (Punch, 2014). It is used to make sense of large quantities of qualitative data, find meaning and discover patterns. Usually, coding will be more descriptive initially, and progress to be more interpreting as the research progresses (Punch, 2014). However, Clifford et al. (2010) describe that the coding process is generally messy as the coding structure is continuously refined. To facilitate the coding process the researcher makes use of memos. These memos are used to document ideas and interpretations that arise during coding (Punch, 2014). The act of memoing helps the researcher to move from a descriptive to a more conceptual level. This research starts with codes deducted from the theoretical framework, and additional codes emerged incrementally during the process of analysing the interviews. For example, the deductive code group WHERE: PLACE: PLACE ATTACHMENTS had several codes from the start: 'physical', 'social', and 'time of residence'. Other code groups emerged inductively during the interviews, such as 'historical' and 'future'.

Once these codes were created, earlier interviews were revisited whether they contained any statements that pertained to this code.

Moreover, the relative position of the interviewee on certain themes was identified and positioned in two schemes. The first scheme (Table 2) illustrates the various place attachments one has to the neighbourhood. It followed from the theoretical framework that the form of place attachment might relate to support. On the basis of the frequency and intensity of statements residents made, interviewees were given a relative rating from - -, being the lowest, to + + being the highest place attachments. The other scheme (Figure 20) shows the development that would be preferred by the interviewee. This scheme is based on Figure 2 from the theoretical framework: Their preferred development is positioned in a graph along 'process' and 'proximity' axes. Interviewees were positioned on the basis of certain indicators, such as statements, body language, or emotions. These schemes make it possible to illustrate differences in stances and potentially find patterns.

3.5.3. Survey, secondary data

The preliminary results from the survey are presented in chapter 3.2.1 and in chapter 4. The results were analysed by Grunniger Power using SPSS.

3.6. Ethical considerations

With all qualitative research, ethical considerations should be kept into account. Punch (2014) discusses aspects that should be considered regarding the participants of the research: autonomy, trust and beneficence. The first principle, autonomy, considers the obligation of the researcher to respect each person as someone capable of making an informed decision regarding participation. To make sure this requirement is met, the participants are informed about the content of the research, the process of participation, how it will be reported and that they are free to withdraw from participation at any moment, and they should only share what they feel comfortable with. Followingly, confirmation of consent is asked both verbally and with a consent form. The full consent form can be found in the appendix. The second principle, trust, considers the obligation of a researcher to protect the information entrusted by them in during the research. Trust is guarded by keeping the confidentiality of the data acquired through the participants. This entails that the information is stored securely and access to this data is tightly controlled. Furthermore, the data is anonymised so information from the report cannot be traced back to the participants. The last principle, beneficence, considers the obligation of the researcher to attempt to minimise harm, and maximise benefits to the participants. It takes time and effort to participate and participants should derive some benefits from this. Regarding the benefits, the creation of valuable knowledge and giving a voice to the residents may be considered advantageous for the neighbourhood. Furthermore, appreciation of the participants is shown after they have participated, in the form of a little thank you gift: a chocolate bar with a thank you note.

King and Woodroffe (2019) describe that there are some additional ethical considerations for the walk-along interview method. The act of walking may pose some small risk to participants, especially when they have limited mobility. Therefore, the interview is adapted to the personal circumstances of the participant. Either the distance or pace of the walk could be adapted and breaks could be taken intermittently. Or, it may be decided to opt for a sit-down interview instead. Furthermore, walks may be rescheduled due to inclement weather. Secondly, the act of performing the walk in the public space may compromise the confidentiality of the participants, as they may encounter acquaintances. Even though this should be acknowledged, it is expected that this will not be an issue as the interview does not explore particularly sensitive information.

Furthermore, in light of the recent COVID-19 epidemic, some additional measures were taken for the safety and comfort of interviewees. Even though the restrictions were fully lifted at the

time the research took place, some people are more vulnerable to the virus due to underlying health conditions. Therefore, participants were asked whether they preferred if the interviewer kept 1.5 meters distance and wore a mask.

Lastly, it was checked whether approval of the ethical committee of the faculty of spatial sciences was needed. According to the provided checklist, specific approval of the committee was not necessary.

CHAPTER 4. RESULTS

This chapter reveals the empirical data collected through the walk-along interviews and the survey, to answer the research question: “*How do local residents form their perception toward local energy developments?*”. The results will be discussed along the themes in the theoretical framework: what, how and where. Section 4.1 will shortly discuss the perspectives on several energy technologies. Following, section 4.2 will discuss the relevance of fairness and trust. The last theoretical lens is split up into two sub-chapters. Section 4.3 delves into the relevance of place, and section 4.4 delves into the relevance of people’s characteristics. Lastly, section 4.5 will show what energy projects people prefer and the attitudes that people hold towards LECO. The answers to the research questions and the connections to the literature are discussed in chapter 5.

Table 1 of section 3.3.2. shows the personal information of the participants. Participants are referred to as P1, P2 etc. according to this table. Quotes are translated from Dutch. It is tried to remain close as possible to the original quotations while keeping in mind their meaning and the context in which the statements were made.

4.1. Perspectives on energy technologies

There were no explicit questions on the particular technologies, yet this theme emerged spontaneously. Firstly, several people indicated that they had already made, or were in the process of making sustainability improvements to their homes on their own account. The most common was the addition of solar panels (P1, P2, P6). Other measures were energy-saving, such as improving isolation with double-walled glass (P6). One resident (P4) was offered solar panels on his home, but he refused the offer as he would rather have a green roof. This is somewhat comparable to the survey: The most popular home improvements that people had made were solar panels (41%), improved isolation of homes (41%) and energy-saving appliances and lighting (38%).

Residents indicated that when making the choice for these technologies in their own home, they thought about costs, energy efficiency and maintenance. Several people had received subsidy (P1, P2) from the government for earthquake damages to finance these technologies, for one resident (P6) it was mainly financed through the social housing association. These subsidies made these technologies more appealing. P3 indicated that they would like to place solar panels, but they were too expensive. Moreover, several residents (P1, P2) mentioned that they had thought about small windmills, but these were not considered energy-efficient at the time.

Likewise, from the survey results, the most important condition on which people want to make sustainability improvements to their home is a lower energy bill (76%), followed by enhancing the comfort of the home (61%), the return on investment (48%), subsidies (45%).

Moreover, energy efficiency and cost efficiency were mentioned when talking about energy technologies that could be implemented in the neighbourhood by almost all participants. Several participants (P3, P4) took a broader perspective on the sustainability of the technologies, highlighting issues on the materials, shipping, end-of-life, and social justice. This is illustrated by this statement from P3:

“So I’m thinking, the biggest part of the energy for these heat pumps will come from energy plants, which are run for two-thirds by gas. So, I’m wondering, what are we doing?”

Especially P4 was really insistent about the importance of recyclability and re-use and voiced his worries about the waste that would be generated by adopting solar panels on a large scale.

“Lets us not all place solar panels on our roofs. When I see this, I think, “come on, this is trash, over twenty years, what will we do with it?” (...) We generate so much waste, it will destroy the world. (...)”

Some respondents indicated that other energy technologies which could not be implemented on a neighbourhood level should be considered as well, such as nuclear energy (P4) or solar panels on the sea (P3).

4.2. Perspectives on fairness and Trust

Fairness

The following section will consider how the themes of fairness and trust emerged during the interviews. One respondent (P2) brought the importance of a fair distribution up himself, which may indicate that he found this aspect especially important. He described:

“If you consume energy where you produce it, taking into account the needs of the residing community, that seems like a nice future to me, instead of a growth economy that loots the earth of which the profits go to one central organisation.”

Yet, in most instances, respondents were asked directly how they thought the revenue of the energy project should be spent. All respondents indicated that they preferred that the revenue would be used to the benefit of the neighbourhood. Examples were the isolation of homes that are relatively energy insufficient, buying collective energy technologies or improving public space’.

At the same time, several people indicated that this question was not of primary importance to them (P1, P4, P6): They stated that their main concern was contributing to the sustainability of the neighbourhood, and if this could benefit the neighbourhood, it would be an additional bonus. For example, P4 stated:

“It’s not only about making money, but it’s also about a better environment, improving nature. If it is cheaper, we could spend it on improving the Oosterpoort, which would be a win-win situation.”

P1 stated this more strongly:

“I think sustainability should be about sustainability and not about profits.”

Several respondents raised concerns about whether everyone could and would benefit from the energy transition. For example, one resident (P3) pondered who would make use of the revenues generated from the energy projects. He worried that subsidies would be given to people that were already affluent and had relatively energy-efficient homes, instead of people that may need it more. In his experience, this was often how it is approached in practice.

Surprisingly, only one person (P4) hinted at the justice principles of the decision-making process. P4 stated that he would very much like to be included, on the condition that he could actually express opinions and be listened to:

“If you involve people, you shouldn’t just give them a couple of options, that’s not a choice.”

Trust

Something that came back repeatedly was the importance of trust, in other residents, in institutions in general and in the government overall. The level of trust that was there greatly differed between interviewees.

Some interviewees (P2, P6) had faith in other residents and believed that citizens would be capable of managing the energy transition. Other interviewees indicated that they doubted whether all citizens would be competent enough, whether they would take action on their own (P1), or whether citizens could make unbiased decisions (P3). Moreover, P3 mentioned that he found energy security too important to leave it to the responsibility of the public:

“No, I don’t think that’ll work. It’s very important, energy, everyone needs it, we are dependent on it, we can’t live without it. I just trust a big company like Enexis or Vattenfall more than a local initiative that could just fall apart. Because if it falls, where do you stand?”

It seems that trust is greatly influenced by the personal experiences people have had. This effect can be seen in most respondents; People that have had positive experiences with others are generally more positive about collaborating in the future (P1, P2, P6). For example, P2 has experience with collaborative projects during his line of work for a municipality, and P6 describes the positive experience she has had working in a citizen initiative when she is asked who should take the initiative for realising the energy transition:

“Maybe as it is done currently, by a team operating from the Poortershoes (...), I know that they are an active association. I participate with Oosterpoort Groen, which is a team that improves greenery in the neighbourhood.”

Several people (P2, P3, P4, P5) voiced critique towards the government. Mostly, they criticised the rigidity and one-size-fits-all policy (P3, P5). P2 stated how she doubted whether the government felt the urgency of climate change, and she felt like they did not take enough action. Others were generally critical of the capitalist system (P1, P2, P4). Yet, even though several people (P3, P4, P5) voiced critique towards the government, they did not all show a lack of general trust in governmental institutions. However, respondent P3 did show signs of deteriorated trust in the government. He frustratingly described the negative experiences he has had with governmental policy. During the interview, he spoke about the privatization of the health care system and the effects this has had on people. He stated how he did not trust the government to make the right decisions anymore.

“At the very least, we should just impose policy top-down. Trust in our government has been historically low. One fault is made after the other. I think that the government should take a hard look at itself to see what they have done wrong. We have to do it differently, because what we are doing currently, just look at youth services, it makes me so angry, what they did.”

Lastly, P4 stated that realising the energy transition could be an opportunity for restoring the trust that has been lost. But to realise this, he advised that those in charge of the transition should demonstrate care for the environment and for the community, instead of being focussed on generating profits.

4.3. Perspectives on place

Place attachment and place identity

Time of residence is often used as a proxy for place attachment. All people interviewed lived in the neighbourhood for more than 10 years, 2 people (P4, P5) even lived in the neighbourhood for more than 30 years. During this time, three residents have moved houses within the Oosterpoort neighbourhood (P1, P2, P5). One person mentioned that he would like to move in the future, but would prefer to remain in the Oosterpoort (P3). Interestingly, however, only one person (P4) indicated that he felt a little bit like an Oosterpoorter. Others (P1, P3) said they felt more affinity with the city overall. Several people (P5) stated that they were no Oosterpoorter even though they had lived in the neighbourhood for a long time, as they were not born there.

All interviewees described that they felt attached to the neighbourhood in some way. First off, everyone felt connected to the neighbourhood because of its physical aspects. Aspects that were mentioned are the beautiful architecture, the greenery, its close connection to the city centre and the train station and the amenities that are present in the neighbourhood. During the interviews, the interviewees guided me along places which they were fond of.

The first place that was appreciated a lot was the Heemtuin. P3 said enthusiastically:

“If the gate is open, I will show you a gem!”

This is a neighbourhood garden in the courtyard behind the Mauritsstraat of which the access gate is fairly difficult to find. Likewise, P1 called it an ‘undiscovered place’. She described how maintenance is intentionally limited so that the indigenous plants can flourish. The garden is characterised by a variety of native plants and animal species. Remnants of a former building are covered in vines, ivy, hollocks and butterfly bushes. In the centre of the garden is a small playground.

Secondly, people (P1,P5,P6) really liked the Sophiastreet in the Brandenburgerbuurt. This street is loved because of the little old houses and the greenery. P1 states:

“I think this is a beautiful part of the neighbourhood. It’s like your walking through France, very picturesque... I love this very much.”

Another resident (P6) really liked this street because her daughter was called Sophia. She fondly described memories from when her daughter was little, and she would always want to walk through this street.

Lastly, residents really appreciated the Lodewijkstraat, because of its greenery and the cute benches you can sit down at. One resident in particular (P6) said she really loved this street because when she arrives at this street from the train station, she feels immediately like she is home. Her statement portrays a sense of attachment or even pride in her neighbourhood:



Figure 14: The playground in the Heemtuin (own picture).



Figure 15: The Sophiastreet (own picture).

“It’s nice that people have made all of these flower beds, plants and benches. And the train tracks are important since we arrive by these tracks and think: this is already the Lodewijkstraat! You arrive and you immediately feel a connection, this is our neighbourhood!”



Figure 16: The Lodewijkstraat (own picture).

Some people also showed social attachment to the neighbourhood (P2, P4, P5, P6). Several people stated explicitly that they had friends living in the neighbourhood (P4, P6). For example, P4 described that when he goes for a walk he often bumps into friends, and always says hi or has a little chat. Others (P5, P6) described attending or planning to attend activities hosted in the neighbourhood centre in ‘t Poortershoes. P6 mentioned that she was active in a neighbourhood association. Sometimes, social attachment was embodied in particular places like ‘t Poortershoes or the local supermarket. This is illustrated by the following statement from P2:



Figure 17: The local supermarket, the COOP (own picture).

“One of the nice things about this neighbourhood is the COOP. A beating heart, a centre in a sense, kind of a camping store. Everyone comes together, you greet each other in the COOP, and the personnel, which gives a sense of liveliness”



Figure 18: The Zuiderpark (own picture).

Moreover, residents (P2, P3, P5, P6) really appreciated the neighbourhood for its history. Some inhabitants shared their knowledge of events that had happened in the neighbourhood, or the origin of certain places (P2, P3, P5). Relating to recent history, several residents (P2, P5) described how aldermen Ypke Gietema planned to bulldoze whole parts of the neighbourhood (around 1987) and inhabitants came together in the Poortershoes to protest this. P5 stated:

“Yeah, we have protested against that [revitalisation]. There were gatherings in the Poortershoes, the alderman came to explain what they wanted, but people booed him. There was even a sign at the beginning of the neighbourhood: “Don’t buy a home here!” because it was a renovation project and the municipality wanted to appropriate. But it never came to that.”

Especially the Zuiderpark was loved by several residents (P1, P2, P3, P6). P2 described how you can still see the remnants of the old city wall in the street pattern, and how the mansions that were previously used as homes are now used as offices. For him, these changes symbolized hope for the future:

“It all looks permanent, the current economy and the current way of living, but it is actually all dynamic. The world seems so immovable, but the story becomes more hopeful if you see what has changed already.”

Moreover, several residents (P2, P6) liked to fantasize about how life would have been, had they lived there 100 years ago (statement is from P6):

“I wish I could see how life really was around 1880, I’m so curious about it, I love walking here and imagining what it would have been like”.

Several residents made connections between the history of the neighbourhood and the energy transition. Firstly, P2 described how the Brandenburgerbuurt was built cooperatively, and he implied that this gave him confidence that citizens would be capable of organising the energy transition collaboratively as well. Secondly, P3 described how the neighbourhood has had a long history with energy, as the former energy plant was located just across the Winschoterdiep.

Additionally, one interviewee (P2) talked about the further developments in the neighbourhood. He was very enthusiastic about the park that will be built above the ring road as it will no longer be a barrier and instead you can walk immediately into the park. Additionally, he had several ideas on how you could improve liveability on the Meeuwerderweg.

Scale different place attachments

To illustrate the place attachments of the interviewees to the neighbourhood, they are put on a scale indicating their physical and social place attachment. This will be utilised in chapter 5 when looking at the effect of various place attachments on support. ++ relates to many positive statements that imply place attachment, + relates to some positive statements. For statements about the past, it is determined whether these statements hint at physical or social dimension. It is to note, that this only provides a rough indication of their place attachment, and can only provide an illustration of the variety of ways that people can feel attached to their neighbourhood.

Table 2: Place attachments of interviewees.

	Physical	Social
P1	++	0
P2	+	++
P3	+	0
P4	0	++
P5	0	+
P6	++	++

Sense of place

Trying to get a sense of the vibe of this neighbourhood, people were asked to describe it. All people described the characteristic buildings. Additionally, most people (P1, P2, P3, P6) described that the neighbourhood had a great mix of people, of different age groups and socioeconomic classes. People (P4, P5, P6) mentioned that many students lived in the neighbourhood, but this was generally liked. For example, P2 describes:

I feel like this is the city as it should be. So, all mixed, rich, poor, young and old, a bit of everything. The contacts you have are more varied, and you feel a part of it”

P4 stated that the atmosphere is friendly and people help each other out if needed. In line with this, the neighbourhood was described as having a ‘village-like character’(P1, P3, P5), striking a perfect balance between the quiet of the neighbourhood and the busyness of the city. Some residents (P2, P5, P6) reminisced about the past of the neighbourhood: Some local stores have moved to the city centre, leaving the Meeuwerderweg less bustling than it had been in the past. P6 describes she finds it important that these characteristics of the neighbourhood are retained:

“It’s a very old neighbourhood with a unique character, which is important to me. Also, having a good mix, I hope that it stays like this, of students, families and elderly.”

Routes

The interviewees took the lead when deciding the route of the interview. In Figure 19 you can see all routes that have been taken when doing the interviews, the individual routes can be found in Appendix E. Points of interest to the interviewees have been marked and the parts which interviewees mentioned that they found particularly beautiful have been highlighted with pink marker. A darker colour indicates that multiple interviewees thought this area was beautiful. Moreover, several points of interest are shown on the map: The cultural centre ‘t Poortershoes, the public garden, a playground association and the local supermarket.



Figure 19: Interview routes, areas perceived as beautiful and points of interest (own figure).

As can be seen from Figure 19, people generally find the North-West of the neighbourhood most beautiful, where the Zuiderpark, brandenburgerbuurt and the public garden are located. The canal Winschoterdiep is also liked by several interviewees.

Locations

When asked directly if interviewees knew places that would be fit for individual or collective energy technologies, several respondents stated that roofs of public buildings could be utilised (P2, P3), for example at a nearby industrial site (P3). Several people (P1, P4) stated that the particular location was not of much importance to them, and that good locations could be easily found with good consultation with each other.

4.4. Characteristics of people

Values

It was very difficult to discern values from the conversations with the interviewees. However, some people (P1, P2) implied that they care more for the collective than the self, which would indicate altruistic values. All interviewees stated the importance of caring for the earth. Almost all people described that they had adapted their behaviour to in face of climate change in varying degrees. P3 described that he talked about it with his children and reduced showering time. P4 indicated that he took several measures to save electricity, for example by using the electric kettle instead of the gas stove and only using big appliances sparingly. He also described planting flowers throughout the neighbourhood on his own account. P6 described that she has changed her diet to include fewer animal products, buying produce locally and having short and fewer showers. Moreover, she described she purposefully had no car and only used her bike and public transport. She was also part of a neighbourhood team that purported greenery in the neighbourhood. Several people indicated they had already made or were in the process of making sustainability improvements to their homes (P1, P2, P5, P6). Lastly, two explicitly stated they bought energy from a green energy supplier (P4, P6). All of these aspects indicate a degree of biospheric values.

Beliefs

During the interviews, there were several beliefs that emerged which may influence people's acceptance of local energy initiatives. Firstly, the belief in the urgency of climate change differed among participants. All people were aware of climate change. Some interviewees (P1, P2, P6) showed explicit concern explicitly about what would happen if nothing would change, some even suggesting big system transformations (P1, P2). On the other hand, P3 appeared sceptical of how climate change was framed and was hesitant to make big changes:

“I’m a bit wary of going with the crowd... I am critical of the tendencies and emotions that come along with climate change. People quickly go in a direction they shouldn’t. (...) yeah climate change, what is it? Climate is everything. You have given something a name, but what it is exactly, almost no one can tell you, even people that radically want to change things.”

Other beliefs that appeared were the belief that people have an influence on the future (P2, P4, P6), the belief that there are still things that could be done (P1, P2, P4, P6) and the belief that the project is helpful (P2, P6), or not (P1). These set are not exhaustive, as not all people were explicit about their beliefs. One was specific to the technology: The belief that solar panels would make homes hotter (P4).

Norms

When asked, some interviewees described that they knew of people that made sustainable innovations in their homes. Yet, from the conversations, it did not seem like their behaviour was influenced by this. In the survey, 13% of the respondents did indicate that they would be more likely to make sustainability improvements to their homes if their neighbours did this as well.

Motivations

Lastly, people had different motivations for engaging with the energy transition. Climate change (P1, P2, P4, P6), independence from Russia (P4, P5), independence from big energy corporations (P2), and the financial benefits (P1, P4, P5, P6) were mentioned. For example, P5 stated:

“Yeah, it’s getting more and more urgent, with the situations with the Russians. We have to bite the bullet and get to work”.

4.5. Preferred energy projects and attitude towards LECO

Before talking about the local energy initiative LECO, people were asked several questions on how they would prefer the energy transition in their neighbourhood was governed. From the information gathered from the interviews, the energy projects that interviewees would prefer have been illustrated in Figure 20. As you can see, there are great differences between people regarding which energy projects they would prefer. Followingly, the positioning of the people is explained shortly.

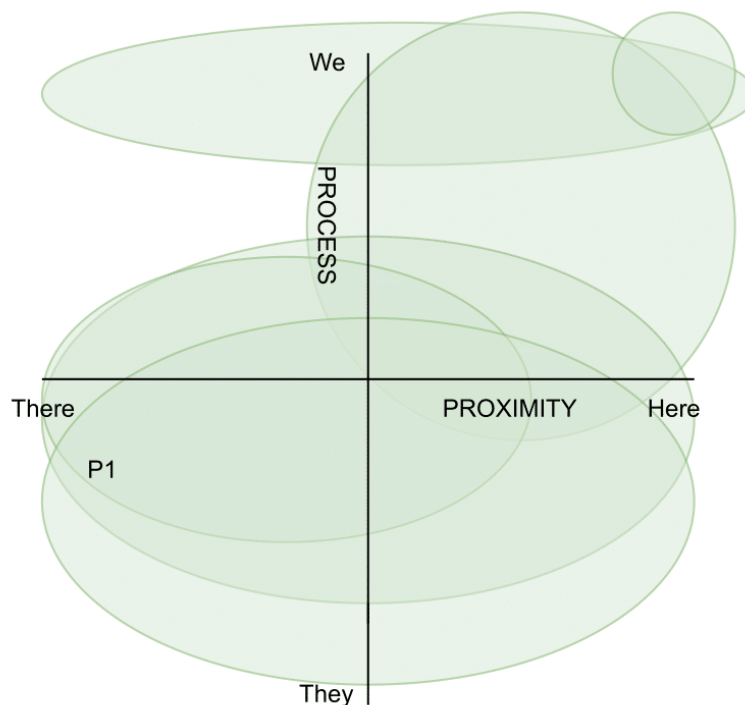


Figure 20: Energy project preferences (own figure).

Preferred energy projects: process

P1 was supportive of the citizen initiatives. However, she did say that, in principle, the energy transition should be directed by the central government, and perhaps could be enforced by the local government. She described that for a proper solution a substantial approach was required, and people should not (only) work unilaterally. She would like to have a voice in this process, but she did not want to organise it herself.

P2 seemed excited to organise the energy transition collaboratively, from the bottom-up. He noted that this could be facilitated by the municipalities. When asked whether he would like to participate, he affirmed this:

“Yeah, how would you do this. Coming together with various people try to do something collaboratively. (...) to make a joint plan. That’s difficult, but fun. I would like to be involved like this.”

P3 described that he was opposed to rigid top-down policy from the European Union and the Dutch government. He described that trust should be given to the people that they would meet their responsibilities, and they should be supported in this process. Additionally, he found it especially important that there was a clear governance structure to ensure energy safety. He had no faith in neighbourhood committees for organising energy supply. He did not want to participate in this process for personal reasons.

P4 was fairly indifferent on who would take initiative for realising the energy transition, as long as decisions are made thoughtfully and people are not bothered by the outcomes. He did find it important that everyone could benefit from the energy transition. He indicated that he would like to participate in the process:

“Yeah, I would like that, then you can have a say, If you don’t participate, then you can not complain either.”

P5 described that he thought this was the task of the municipality. He doubted whether a top-down policy would be effective in the neighbourhood, as there were many local differences. He saw the value of a neighbourhood team that could be attentive to these differences, which could be from the municipality or a citizen’s initiative. Personally, he considered whether he could play a role in this. Additionally, he purported the value of the social housing associations, which are already making homes more sustainable in the neighbourhood.

“There used to be a team of people that took care of this neighbourhood, its design, greenery, maintenance, things like this. I don’t hear from them anymore, but there should be one again.”

Lastly, P6 was excited about a neighbourhood team organising the energy transition. Yet, she did not want to participate or take initiative herself: She felt like she had too little technical expertise, and she preferred to contribute to the community in other ways. She too described that her social housing association had made many steps for organising the energy transition.

Preferred energy project: Proximity (and scale)

Looking at proximity, results were varied, yet no one was principally opposed to developments in the neighbourhood. P1 indicated that she was indifferent to whether it was done within the neighbourhood, or on a bigger scale, and she expressed she had too little knowledge of the advantages and disadvantages to make a good decision. When confronted with place-based difficulties, she stated:

“Yeah I think this is out-of-sight, at a certain point, those things are difficult, can’t they be done differently? Does it have to be a roof, or could you sacrifice some grassland?”

P2 thought a combination of local and bigger scales was necessary. Yet, he was especially enthusiastic about local incentives, since benefits could go to the community, and there would be attention to local needs. Both P1 and P2 stated that it could be interesting to scale up neighbourhood initiatives by, for example, coupling them into a network. P2 described:

“To realise an energy-neutral world, you should start with energy-neutral neighbourhoods, it will become an energy-neutral city, if cities learn from each other... that’s how you’ll get there.”

Others (P3, P4, P6) did not explicitly say whether they would prefer where the energy was produced, or they were indifferent. Yet, most people (P1, P2, P3, P5, P6) said that it would be important to be attentive to local needs.

Attitude towards LECO

After discussing their general preferences, interviewees were asked whether they already knew of the initiative LECO, and what their view attitudes were toward this particular citizen’s initiative. Several people (P2, P3, P5, P6) knew of a neighbourhood team that was engaging with the energy transition. Most (P1, P2, P4, P5, P6) were generally positive about LECO. Especially P2 was very enthusiastic about the concept:

“Yeah, I think this is the only way it [energy transition] can be done. It’s different from an institution that makes big investments and needs a return, as they can only do what has been done before. (...) You have to learn a lot, and have to accept a liminal phase in which the old doesn’t work anymore and the new doesn’t either. In this liminal phase, you learn how to do it.”

P1 supported the initiative but doubted whether it could make an impact. P3 was hesitant about the initiative, as he had heard stories about organisational issues. He did not trust a citizen’s initiative with the energy transition. Yet, he slightly opened up to the idea of citizen’s initiatives towards the end of the interview and stated that it would be something to think about, given the organisation was clear on who was responsible. P2 and P5 said that they considered joining the initiative. In contrast, P6 described that she could not participate as she rented her home:

“For the energy transition, there is another team that approaches people at the COOP and things like this, we also host nights in the Poortershoes, but it’s difficult because we have a rental home and we would love to have a heat pump, but that’s not possible.”

CHAPTER 5. DISCUSSION

This chapter will provide an answer to the sub-questions of the research, by connecting the findings to the literature. In the last section, the answer to the main research question and some recommendations are given.

3.4. Factors that play a role.

The first sub-question, *Which factors play a role in shaping the perception of local sustainable energy initiatives?*, can be answered by comparing the factors that emerged during the interviews to the theoretical framework. Most factors that were considered in the theoretical framework emerged during the interviews. Yet, the extent to which these factors played a role differs across interviewees.

Firstly, most interviewees showed that they had considered aspects of the technologies in question, especially their energy and cost efficiency, which also came forward in the survey. Some participants (P3, P4) even looked at the sustainability of the whole product cycle. For one resident (P4), the re-use and re-cycling of products were crucial for his support. So, technology was clearly the deciding factor for one interviewee.

Secondly, both fairness and trust seemed important for the social acceptance of most participants. Fairness of distribution was considered by all participants, although some interviewees stated that this is not required for their support. Only one interviewee mentioned elements of procedural justice. This could imply that interviewees did not find procedural justice important, yet it may be the case that people expect that they would be treated fairly if they would participate, so they do not feel the need to make this explicit. I hypothesize that fairness becomes especially relevant when it is lacking, which would be interesting to assess in further research. Next to this, trust in both other residents and the government relates to social acceptance: Interviewees that were trusting of other residents and had good experiences with collaboration were more likely to be more acceptant of citizen initiatives, and the interviewee that showed a lack of trust was very hesitant towards both great governmental power and citizen initiatives. This is in line with earlier studies that community initiatives need trust and can create trust (Walker et al., 2010). Thus, aspects of trust and fairness were considered important.

Lastly, several aspects of place were important for social acceptance. The place attachments, place identity and sense of place that were uncovered during the interviews could be utilised to find potential locations or a narrative for the technology to be accepted. All people from the interviews showed attachments to place, yet differed in the form and extent. The way in which aspects of place influence energy developments will be expanded upon in chapter 5.3. Next to this, it is found that the belief in the urgency of climate change and the values that people play a role, which will be explored in chapter 5.4. Overall, the place and the people residing there are important to consider.

3.5. Differences in attitudes towards local energy initiatives

The second sub-question, *What are the various attitudes that people have towards local energy initiatives?*, can be answered by looking at the results derived from the interviews and the survey. Followingly, these attitudes will be shortly summarized and compared. The energy projects that were preferred by the residents differed greatly, as did their attitudes towards the local energy initiative. Still, most interviewees were positive about the local energy initiative.

Before discussing LECO, there were some respondents (P2, P6) that were particularly positive about the prospect of realising the energy transition collaboratively. Especially P2, who saw it as the only way it could be done. In contrast, P3 was principally opposed to this idea. Others initially found this to be the primary task of governmental institutions (P1, P5), or were indifferent about who takes initiative (P4). When asked about their own role, there were

various responses. Most people (P1, P2, P4, P5) said that they would like to have a voice in the process, some even considering (P2, P5) participating in its organisation. Others (P3, P6) did not want to participate. Additionally, all people found it important that the energy transition would meet their place-based needs. Most people did not mention whether they preferred the energy transition locally or not. P2 especially liked organising the transition locally, while P1 wondered whether it could be done elsewhere (P1). So, before discussing the particular citizen initiative, the energy projects that were preferred by interviewees varied greatly.

Several interviewees had heard about a citizen initiative working on the energy transition in the neighbourhood (P2, P3, P5, P6). This is somewhat less than the survey, where 75% knew about the initiative. This may be due to the fact that the survey was distributed through the Oosterpoort Duurzaam network. After it was explained what the initiative was and what it did, most interviewees (P1, P2, P4, P5, P6) were generally positive about LECO. Only P3 was sceptical about the initiative, but he slightly opened up to the idea later on. Others encouraged the initiative but had some reservations: P1 doubted its efficacy and P6 felt like the initiative was only for homeowners. So, their perspective on the local energy initiative differed greatly ranging from principal opposition to encouragement and enthusiasm, although most residents were positive.

3.6. Influence of aspects relate to place

The third sub-question: *How do aspects of place influence the attitude towards local energy initiatives?*, can be answered by combining the literature review with the results from the interviews and the survey.

Meanings and emotions that are associated with places are considered crucial to explain public engagement or opposition. Inspired by the work of Devine-Wright (Brundrett, 2011) these meanings and emotions that are associated with places were identified, by looking at place attachment, place identity, and sense of place. In theory, these subjective experiences could be used to put these technologies into place. During the case study, several meanings and emotions arose that may be particularly interesting keeping in mind local energy initiatives. Firstly, the Zuiderpark symbolised dynamism and hope for the future. Secondly, the affinity of the neighbourhood with cooperative action is symbolised by the Brandenburgerbuurt, and the neighbourhood centre Poortershoes also shows a sense of togetherness. Lastly, the neighbourhood has a history with energy, as there was a former energy plant.

Next to this, Devine-Wright (2009) posed that the strength of place attachment may influence community attachment. On an individual level, this relation is not clear from the data. All participants felt attached to the neighbourhood, but there is no apparent connection between the strength of their attachment to the neighbourhood and their degree of support for the initiative. There was also no clear indication that time of residence or place identity had a relation to the support for the initiative. However, there were differences between different districts of the neighbourhood: Most interviewees were especially fond of the North-West of the neighbourhood, where the Zuiderpark, Brandenburgerbuurt and the Heemtuin are located, or around the waterside.

Yet, according to van Veelen and Haggett (2017), community support is contingent upon the form of place attachment. The results of the case study confirm their findings that people emphasizing social attachment rather than physical attachments were more likely to support the developments. Interviewees (P2, P4, P6) explicitly mentioned they liked doing things collaboratively for and with the neighbourhood. As expected, they were most positive about citizen initiatives overall and LECO. Likewise, in the survey, people who indicate they like collaborative action are more positive towards LECO. In contrast, the interviewee that did not have faith in the citizen initiative (P3) strongly emphasized the physical aspects of the neighbourhood during the walk. At the same time, while this relation can be inferred from the

extremes, it is less apparent in the other interviewees. They (P1, P5) are generally positive towards LECO. P5 brought more attention to social aspects but did not explicitly state his affinity with collaborative action, whereas P1 was more attentive to physical aspects of the neighbourhood. All in all, the data suggest that people having strong social attachments rather than physical attachments are more likely to support the citizen initiative, yet this should be explored further.

Finally, few people had strong opinions on which places would be fit for energy technologies. Mostly energy technologies are preferred out-of-sight, for example on roofs. This is consistent with the findings of Segreto (2020), that externalities such as visual and acoustic impact should be carefully considered. Several people explicitly said that the exact location is not of much importance to them and the locations can be identified by discussing among one another.

3.7. Influence of individual characteristics

The fourth sub-question, *How do individual characteristics influence the attitude towards local energy developments?*, can be answered by combining the literature review with the results from the interviews.

Socio-demographic factors are often considered when looking at community acceptance. However, as the case study has utilised in-depth interview methods, the effect of various socio-demographic factors, such as age, gender and education, cannot be determined. However, this may not be an issue, as the effect of socio-demographic characteristics is often neglectable (Segreto et al., 2020). Still, the socio-demographic characteristics of the Oosterpoortbuurt overall are described in the case study, so that it could be inferred whether results could be extended to similar neighbourhoods.

Next to socio-demographic factors, values can influence differences in attitudes and behaviour. Especially values of universalism, such as altruism and biospheric values, can explain pro-environmental behaviour (Steg et al., 2016; Stern et al., 1995). Although it was challenging to uncover the values of interviewees, some inferences could be made from the results. All interviewees showed some degree of universalism. Evidently, the one interviewee (P6) that went eminently out of her way to care for the environment, and thus showed considerable biospheric value, was very supportive of the organisation. On the other hand, the interviewee that demonstrated the least value of universalism (P3) was also the least positive of the organisation. So, these inferences are in line with previous research: values of universalism relate to pro-environmental behaviour.

Additionally, beliefs were expected to influence community acceptance. In line with the work of other scholars (Bidwell, 2013; Devine-Wright, 2009; Firestone et al., 2009; Leichenko & O'Brien, 2019), the belief in climate change and its severity, the belief in the control one has over the future and the belief whether the project would be helpful in combatting climate change came up during the interviews. It is very likely that these beliefs have mediated people's attitudes towards the local energy initiative. For example, the one interviewee that appeared sceptical of the climate measures was more critical of the initiative as well.

Lastly, norms were thought to have a significant impact on community support. Cialdini and Jacobson (2021) describe a positive spiral of pro-environmental action that results from strong pro-environmental societal expectations. Likewise, the survey did show that norms may be relevant: A small percentage of people indicated that they would be more inclined to participate if their neighbours participated. At the same time, from the interview results, there was no evidence that indicated that norms had influenced people's decisions. So, the results do not clearly indicate the relation between norms and community acceptance.

3.8. Conclusions and recommendations

In the previous sections, the sub-questions have been discussed. This leads us to answer the main question, “*Why do people embrace or reject local energy developments?*” From the results, it is evident that people hold very nuanced views that can not be easily captured with simple explanations. Most factors that were identified in the theoretical framework came up during the interviews, yet the extent to which they affected people’s attitudes differed from person to person. Firstly, aspects of the technology, especially end-of-life, were especially important for P4. Technical aspects such as energy and cost efficiency were considered by most participants but did not seem to be the deciding factors. Secondly, aspects related to the process did arise. Especially trust seemed important for the social acceptance of participants. Especially for P3, who exhibited a lack of trust and was very hesitant to support the initiative. Lastly, aspects of place and the residing community are important to consider. The interviewees showed the most attachment to the North-West district of the neighbourhood, and are thus likely to oppose developments when these be placed in this area. Moreover, the results support the hypothesis that the form of attachment influences acceptance of technologies: interviewees that showed great social attachment were most positive towards energy initiatives. Additionally, results suggest that beliefs and values do influence the acceptance of most participants. In conclusion, the research identifies several factors which could influence support, related to the technology in question, the process, and the place of implementation. The extent to which the identified factors affected people’s attitudes differ from person to person. The results especially show the significance of trust and (form of) place attachments.

Recommendations

Based on these findings, some recommendations can be made. First of all, several emotions and meanings were uncovered that are attached to the Oosterpoort, which could be utilised to construct a narrative around the energy technologies and place them into place, as Devine-Wright (2009) suggests. For example, the history of the Oosterpoort with collective action, symbolised in the Brandenburgerbuurt, could be utilised to construct a positive narrative around the citizen initiative. This may improve the connections that people feel to the initiative and increase their support: Van Veelen and Hagget (2017) showed that the way the project is framed is critical to its acceptance. Secondly, the strongest place attachments were felt in the North-Western part of the neighbourhood. The meanings and emotions that emerged illustrate the inherent value people attribute to these places. Since Bell (2005) described that people may oppose developments in these valuable places, it is advised to locate energy technologies outside of these areas, or at least keep them out of sight, to prevent place-protective opposition.

More broadly, the research illustrates the importance for planners to be present in the neighbourhood and converse with the people living there. During the research, places were discovered that could not have been easily found by simply looking at a map. Moreover, the various meanings and emotions that people attribute to places have been uncovered. It is worthwhile to talk with people living in the neighbourhood, for example by approaching them in the streets, going door-to-door, or visiting neighbourhood meetings. To sum up, I would like to give the advice to planners to visit the place, talk with the people, and be curious!

CHAPTER 6. REFLECTION

This chapter expands on the relevance of the research for planning, governance and society. Thereafter, the chapter holds a critical reflection on the research process and outcomes. The chapter concludes with some suggestions for further research.

6.1. Relevance of the research

Firstly, improving the energy sustainability of cities could significantly help the preservation of a liveable climate. The energy transition in urban neighbourhoods plays a considerable part in this. This study may be especially helpful for the initiative LECO, as the results could be used to see how they could appeal to more people, and it could be used in the energy plan of the neighbourhood. On a bigger scale, the results of the study may be useful for planners and citizen initiatives engaged in other neighbourhoods undergoing the energy transition. Unfortunately, it is questionable whether citizen initiatives would come across this thesis, or would take the efforts to read the results. To enhance the impact of this study and others like it, it would be recommended to create a short executive summary in the original language. This could be distributed through the umbrella or connecting organisations of the citizen initiatives, such as EnegieVanOns or Grunniger Power.

Secondly, this research adds to the academic debate on the social gap. Looking back at the various theories that have been suggested that could explain the difference between social acceptance and community acceptance, the results show support for multiple theories. First of all, the suggestion of P1 to look at alternative solutions elsewhere hints at the NIMBY theory. At the same time, this was said in a context where we were discussing the complexities that come along with realising the energy transition in relatively built-up neighbourhoods while walking through a particularly beautiful part of the neighbourhood. So, her search for alternative solutions could also suggest an attempt of place-protection. This illustrates the difficulty of recognizing theories in practice. Besides, P4 showed qualified support, as he mainly accepted the project on the condition that these energy technologies would not produce much waste at their end-of-life. Additionally, some people hinted that they knew too little to make proper decisions or were misinformed, which alludes to the idea that providing quality information could benefit community support. Lastly, one resident appeared to be more principally opposed to vast system changes and described that he was vocal about his criticisms, which could suggest the vocal minority. Overall, the result could be understood to support multiple theories, but the results remain inconclusive.

Lastly, the results have shown the relevance of looking at place-based aspects. Not only do the physical characteristics of the neighbourhood, such as the older 19th-century homes and the relatively high density of buildings complicate the energy transition, but also the symbolic value of (parts of) the neighbourhood is important to consider. The way the project could be framed, based on the particular symbolic meanings and emotions people attach to the Oosterpoort, is likely unique to the neighbourhood and could potentially help project support.

6.2. Reflection on the research

A strength of this study is the walking-interview method. By walking together with participants while they engage with their environment, you get to experience the environment together with the participants. This method was very effective in uncovering place attachments. Additionally, interviewees stated that they had liked the activity, and I thought it was fun as well. A drawback of this method is the difficulty of simultaneously walking, noticing, remembering the interview questions, and most importantly, listening. The open structure of the interview allowed for emerging topics, which led to both inspiring and relevant conversations, but also meant that it was hard to stick to the topic of the research in some instances. Overall, I would still recommend walking interviews given it is related to the meaning of the living environment since it provides very insightful information.

Looking back critically on the research outcomes, it should be carefully considered whether this sample is representative of the Oosterpoort neighbourhood. First off, it is questionable whether the sample is large enough to draw conclusions from. Even though a big effort was given to approach residents and distribute flyers, six respondents was the maximum that was attainable given the timeframe. Inhabitants have to have the interest, time, energy and interest to engage in a neighbourhood walk. Given the complexity of the research topic, the relatively heterogeneous community, and the novelty and unstructured nature of the walking-interview method, it would have been preferred to do a couple of more interviews to ensure data saturation was reached. At the same time, by the fourth interview, patterns were starting to show in the interviewee's experiences. The interviews that were done afterwards confirmed these patterns. Thus, while it would have been preferred to do a couple more interviews to back the results, it is suspected that the interview sample was close to saturation. Nevertheless, the sample was not representative of the Oosterpoort neighbourhood: interviewees were relatively older and a larger share had bought their homes. There were no students or young adults included in the sample, even though a large share of the population of the Oosterpoort pertains to this category. This may be due to self-selection: People that are interested in the energy transition of the neighbourhood and sustainability of their home, are likely to be people who have the power to make decisions about their own home regarding energy (buyers), and have the financial means to invest (likely to be older). Therefore, the results of the research cannot be generalised to the neighbourhood as a whole. However, the results are effective in bringing forward the complexity and nuance of people's perspectives and are at outset of learning about community acceptance of local energy initiatives.

6.3. Suggestions for future research

The majority of research on community support or opposition is done in the context of large-scale developments, often taking place in rural environments. Moreover, most research relates to wind technologies. There is still a lack of research on the support of local energy initiatives, especially in urban environments. This research has illustrated that the assumption that local energy initiatives will garner community support does not always hold. While this research has taken a step forward by showing what makes people embrace or reject local energy projects in the Oosterpoort, it would be interesting to see whether these relations hold in other places and other energy initiatives. Unfortunately, there was not enough data available that the results could be compared to at the time of doing the research. Therefore, a suggestion for further research may be to explore the same research topic across a wider subset of people, to see how these inferences relate to society as a whole. It would especially be interesting to consider students and (young) adults, as they were not represented in this study. They may be best reached through schools or student associations. Another research suggestion would be to explore a similar question across several places, to assess the effect of place-based aspects more in-depth.

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Maps

ESRI. *Oosterpoort Neighbourhood* [map] Buurt Geometrie Gemeente Groningen 2020; using "ArcGIS Online" < <https://arcg.is/05a0ra> > (29-05-2022)

APPENDIX

Appendix A: Interview guide

PART	NO	QUESTION	PROBING
INTRODUCTION	0	Het lijkt mij leuk als je mij jouw favoriete plekje van de Oosterpoort laat zien. Zou je me rond willen leiden?	Waarom vind je dit een fijne plek?
	1	Wie ben je? Zou je wat willen vertellen over jezelf?	Wat is je naam? Hoe oud ben je? Wat is je nationaliteit? Welke opleiding heb je gedaan? Wat voor werk doe je?
	2	Hoe lang woon je al in de Oosterpoort?	Heb je een koop of huurwoning? Woon je samen of alleen? Ben je veel thuis?
SENSE OF PLACE, PLACE ATTACHMENT, PLACE IDENTITY	3	Hoe vind je het om hier te wonen?	Waarom ben je hier komen wonen? Zou je verhuizen als je de optie had?
	4	Hoe zou je de Oosterpoort beschrijven?	Wat is je eerste/beste/fijne herinnering aan deze wijk?
	5	Voel je je verbonden met de buurt? Op welke manier?	Zo nee; Voel je je misschien verbonden met Groningen/Nederland /Europa? Voel je een connectie met de mensen uit de buurt? Zie je ze vaak?
	6	Zijn er plaatsen waar je je meer of minder verbonden voelt? Voel je je een Oosterpoorter? Waarom?	Wat is een Oosterpoorter eigenlijk?
PERSPECTIVE OF LOCAL DEVELOPMENTS	7	Wat vind je van een ambitie voor de Oosterpoort om energieneutraal te zijn?	Waarom vind je dit (belangrijk?) / Hoe zou u het anders willen zien?
	8	Wie vindt je dat daarbij het voortouw zou moeten nemen?	
	9	Zou je zelf betrokken willen zijn in het proces in deze buurt?	Op welke manier zou je inspraak willen hebben?
	10	Wat zou je vinden van het opwekken van duurzame energie in de wijk?	Waarom? Zou je mening veranderen als een deel van de opbrengst van de energietransitie terug zou gaan naar de buurt?
	11	Hoe denk je dat het opwekken van duurzame energie in de wijk er uit zou moeten zien?	Welke energietechnieken hebben uw voorkeur? Zou je liever individueel of collectief technieken willen gebruiken? Hoe ziet je jouw eigen rol hierin?
	12	Zijn er specifieke plekken in de buurt die hiervoor geschikt zouden kunnen zijn voor het opwekken van duurzame energie? Of juist niet?	Wat maakt deze plekken wel/niet geschikt? Waar zouden collectieve technieken kunnen staan? <i>Evt. voorbeelden geven</i>
	13	Heb je zelf al verduurzamingen in uw huis gedaan?	Waarom heb je hiervoor gekozen? / Zou je daar interesse in hebben? Waarom wel/niet?

	14	Zijn er veel buurtbewoners die je kent die bezig zijn met duurzame energie?	Beïnvloed dit je om zelf ook met duurzaamheid bezig te zijn?
	15	Heb je wel eens gehoord van het initiatief LECO? Wat weet je hiervan? <i>Mocht dit niet het geval zijn, LECO kort toelichten.</i>	Ken je vergelijkbare initiatieven? Wat denk je is het belang van dit initiatief? Wat is je connectie tot LECO?
	16	Wat vind je van LECO?	Heb je vertrouwen in dit initiatief? Zou je hieraan mee willen doen?
CLOSING	17	Is er nog iets wat je toe wil voegen?	
	18	Is er nog iets wat je van mij zou willen weten van mij of van het onderzoek?	
	19	Kent je wellicht mensen die mee zouden willen doen aan dit onderzoek?	

Appendix B: Consent form interview

B.1 Consent form interview in English



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Dear Participant,

Thank you for participating in my research! The purpose of the research is to uncover how people and their connection to the place where they live shape their opinions of local developments in their neighbourhood. Specifically, this research focuses on the view of residents on renewable energy developments in the Oosterpoort. We will walk together through the neighbourhood while doing the interview. Before we start, I would like to discuss some practicalities:

- You will remain anonymous throughout this research. Personal information which could identify you will not be used in this research unless explicit permission is given.
- You only have to share what you feel comfortable with. Feel free to refrain from answering questions you do not want to answer.
- You can pause or stop the interview at any given time.
- If you want to, we can adapt the walk to your circumstances. This could for example be reducing the distance of the walk or doing a sit-down interview instead. Regarding the walk, we can take a break or stop the walk entirely at any given time.
- If you wish to do so, we can wear face masks and keep 1.5 meters distance.
- You can ask any questions regarding the content of the research.
- If you want to, you can receive a copy of the interview notes and make changes where you would like to do so.
- If you are interested, you can receive a copy of the thesis once it is published.

The information from this interview will be used for my master thesis. The thesis will be published on the thesis database of the University of Groningen which is publicly accessible. Furthermore, the results can be used for a presentation given on Graduation Research Day. The full recording and transcript of the interview and will be stored securely with a password

and will only be accessible to on the me and my supervisor. The full recordings and transcripts will be deleted within 2 years.

As a participant, you have the right to:

- Stop or pause the recording or the interview at any time.
- Decline to answer a question.
- Ask the researcher to delete some or all of the information shared in the interview until publication.

Please circle YES or NO to each of the following:

I consent to my interview being audio-recorded: YES / NO

I allow the researcher to openly state my age in the research: YES / NO

I allow the researcher to openly state my gender in the research: YES / NO

I would like to receive the results of the research: YES / NO

If so, my email address is: _____

The pronouns that I use are: _____ My age is: _____

My name: _____

Signature: _____

B.2 Consent form interview in Dutch

Beste deelnemer,



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 groningen**

Bedankt voor het meedoen aan mijn onderzoek! Het doel van dit onderzoek is om uit te vinden hoe mensen en de connectie tot de plaats waar ze wonen invloed heeft op de vorming van hun mening over lokale ontwikkelingen in de buurt. Specifiek focust dit onderzoek zich op het perspectief van bewoners over het lokaal opwekken van duurzame energie in de Oosterpoort. Tijdens het interview zullen we samen een rondje door de buurt lopen. Voor we van start gaan, zou ik graag wat praktische zaken met u doornemen:

- U blijft anoniem gedurende dit onderzoek. Persoonlijke informatie wat u zou kunnen identificeren zal niet worden gebruikt tenzij expliciete toestemming is gegeven.
- U hoeft alleen te delen waar u uw prettig bij voelt. Voel je vrij om vragen niet te beantwoorden.
- U mag het interview op elk moment pauzeren of stopzetten.
- Als u dat wilt, kunnen we het onderzoek aanpassen naar uw omstandigheden. Bijvoorbeeld het verminderen van de afstand of kiezen om een zittend interview. Tijdens het lopen kunnen we op elk moment pauzeren of stoppen.
- Als u dat wilt, kunnen we gezichtsmaskers te dragen en 1.5 meter afstand te houden.
- Als u dat wilt kunt u naderhand een kopie van het interview ontvangen en aanpassingen maken waar u dat nodig vindt.
- U kunt alle vragen die u heeft over het onderzoek stellen als u dat wilt.
- Als u geïnteresseerd bent, kunt u een kopie ontvangen van de scriptie na publicatie.

De informatie van dit interview zal worden gebruikt voor mijn masterscriptie. Deze scriptie zal worden gepubliceerd op de scriptie database van de Universiteit Groningen, die openbaar

toegankelijk is. Daarnaast zouden de resultaten kunnen worden gebruikt voor een presentatie die zal worden gegeven op de afstudeeronderzoeksdag. De volledige opname en transcript van het interview zullen veilig worden bewaard met een wachtwoord en zal alleen toegankelijk zijn voor mij en mijn begeleider. Deze zullen worden verwijderd binnen twee jaar.

Als een deelnemer hebt u het recht om:

- De opnames te stoppen of te pauzeren op elk moment.
- Weigeren om antwoord te geven.
- De onderzoeker te vragen om een deel of alle informatie die is gedeeld te verwijderen tot publicatie.

Omcirkel JA of NEE op de volgende vragen:

Ik geef toestemming om het interview op te nemen: JA / NEE

Ik geef toestemming om mijn leeftijd weer te geven in dit onderzoek: JA / NEE

Ik geef toestemming om mijn geslacht weer te geven in dit onderzoek: JA / NEE

Ik zou graag de resultaten van dit onderzoek willen ontvangen: JA / NEE

Zo ja, mijn email adres is: _____

De voornaamwoorden die ik gebruik zijn: _____ Mijn leeftijd is: _____

Mijn naam is: _____

Handtekening: _____

Appendix C: Distributed flyer



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Hallo Oosterpoorters!

Voor mijn afstudeeronderzoek ben ik benieuwd naar jouw mening! Ik zou graag wat willen weten over je connectie met de buurt en je perspectief op een het lokaal opwekken van energie. Tijdens een gesprek van ongeveer een half uur zullen we samen een rondje lopen door de Oosterpoort. Loop je mee?

Hopelijk tot snel!

Sanne van Delden

Stuur me een e-mail op: s.a.van.delden@student.rug.nl

Of scan de QR-code:



Appendix D: Coding tree

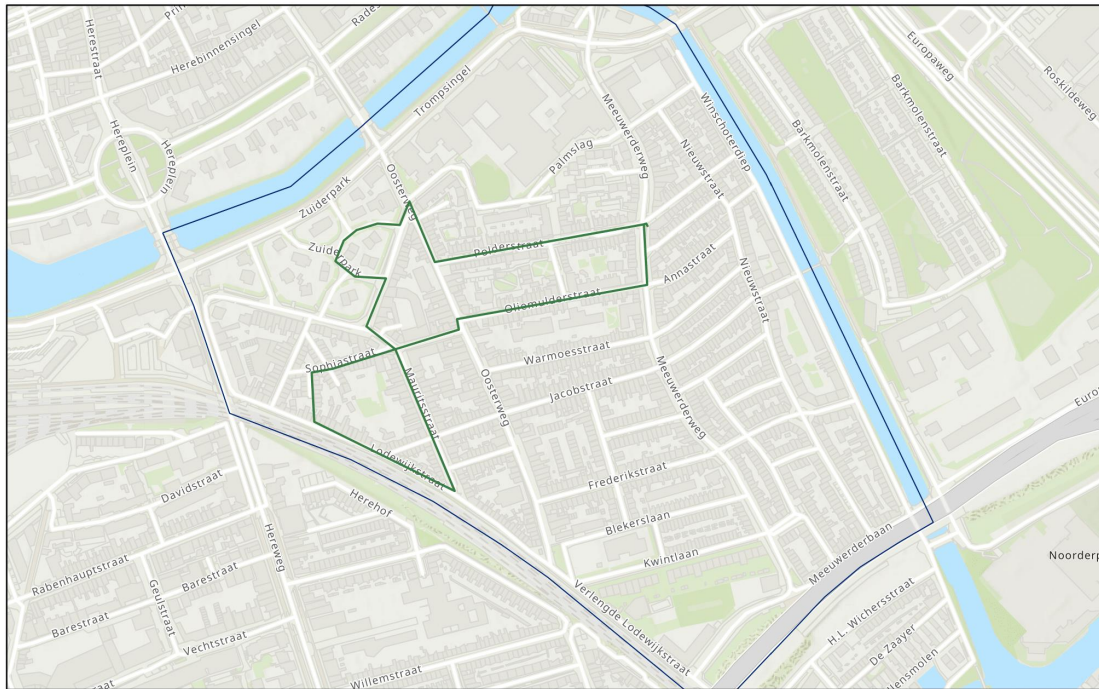
DEDUCTIVE THEMES	CODING	CODE GROUPS	INDUCTIVE CODING	
WHERE: PLACE	SENSE OF PLACE		Emotion	
			Experience	
			Memories	
	PLACE ATTACHMENT			Physcial
				Social
				History
				Future
				Time of residence
	PLACE IDENTITY			Oosterpoorter
Stadger				
WHERE: PEOPLE	VALUES		Altruism	
			Biospheric	
	BELIEFS			Citizen initiatives are biased
				Citizens don't take action
				Government doesn't do enough
				Skeptisim about climate change
				Solar panels heat homes
	INDIVIDUAL			Lack of knowledge
				Participation in citizen initiatives
				Sustainable behaviour
				Sustainable investments
	MOTIVATION			Climate change
Dependence Russia				
Financial benefit				
HOW	FAIRNESS		Distribution of outcomes	
			TRUST	Citizens
				Institutions
WHAT	WHAT		Government	
			Efficiency	
ATTITUDE	ATTITUDE		Waste	
			Lack of Control	
	PREFERRED PROJECT			Practical Objections
				Location
				Process
				Proximity
				Scale
	ROLES			Citizens
				Energy company
				Government
				Municipality
				Self
				Social housing associations
	LECO			Known
				Positive
Skeptical				
Unknown				
THEORIES	THEORIES		Democratic deficit	

	Information deficit
	NIMBY
	Place-Protection
	Qualified Support

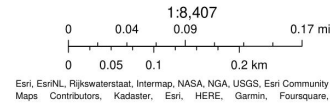
Appendix E: Interview routes

Routes of the interview and the areas which people found especially beautiful.

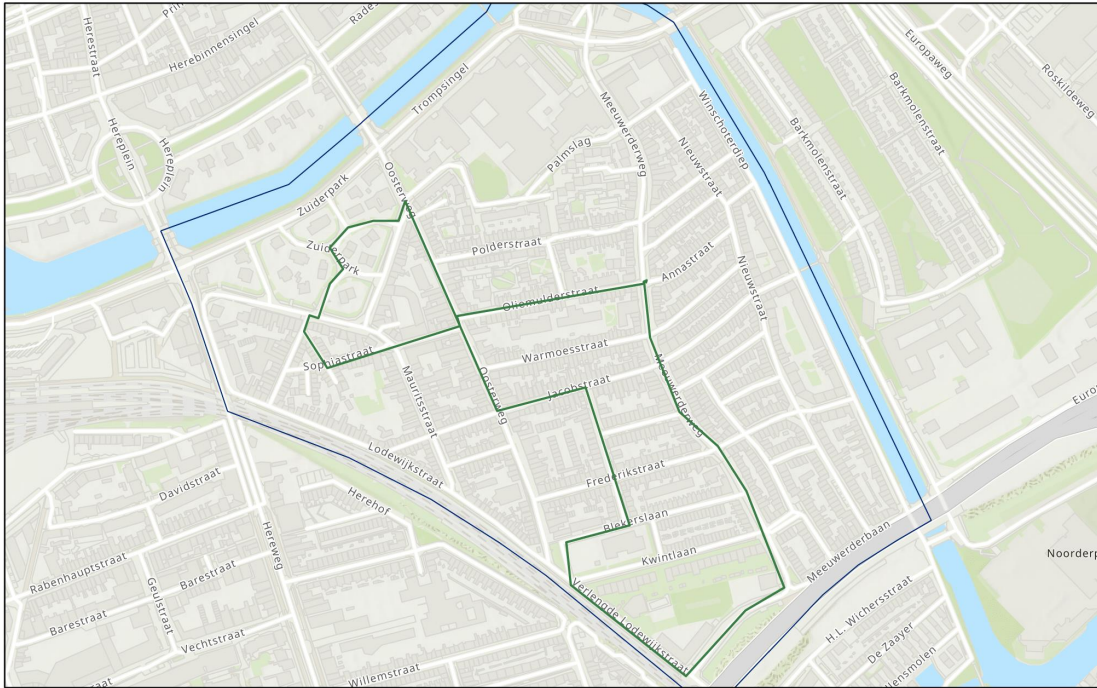
Route P1



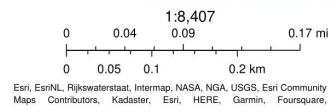
4-7-2022



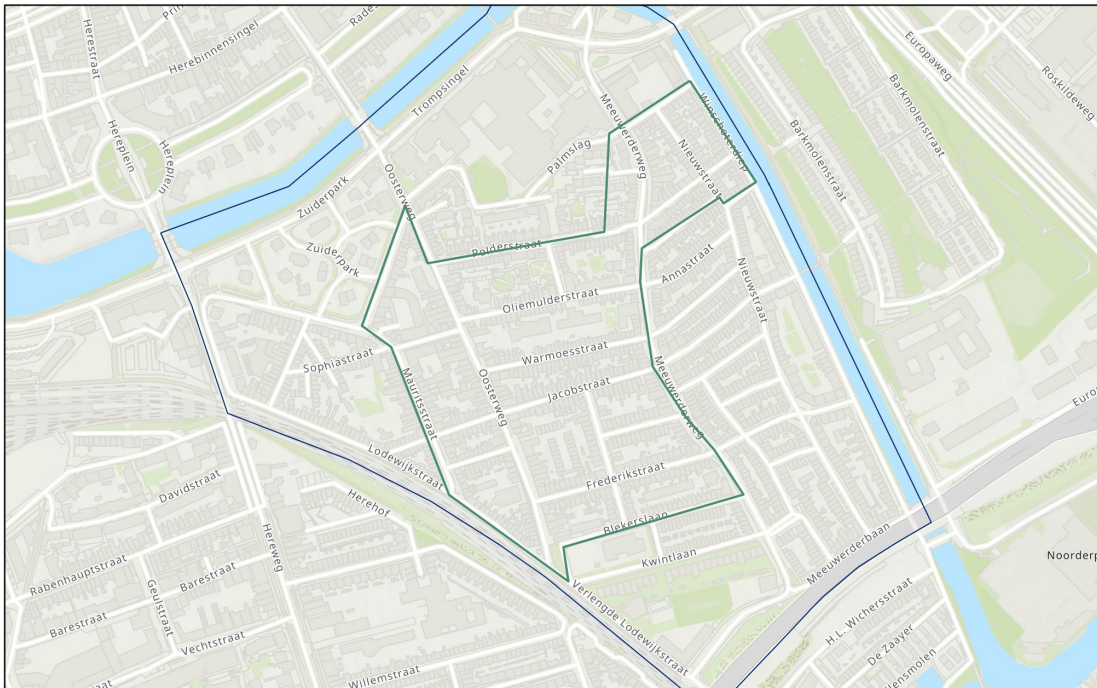
Route P2



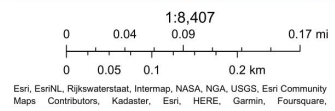
4-7-2022



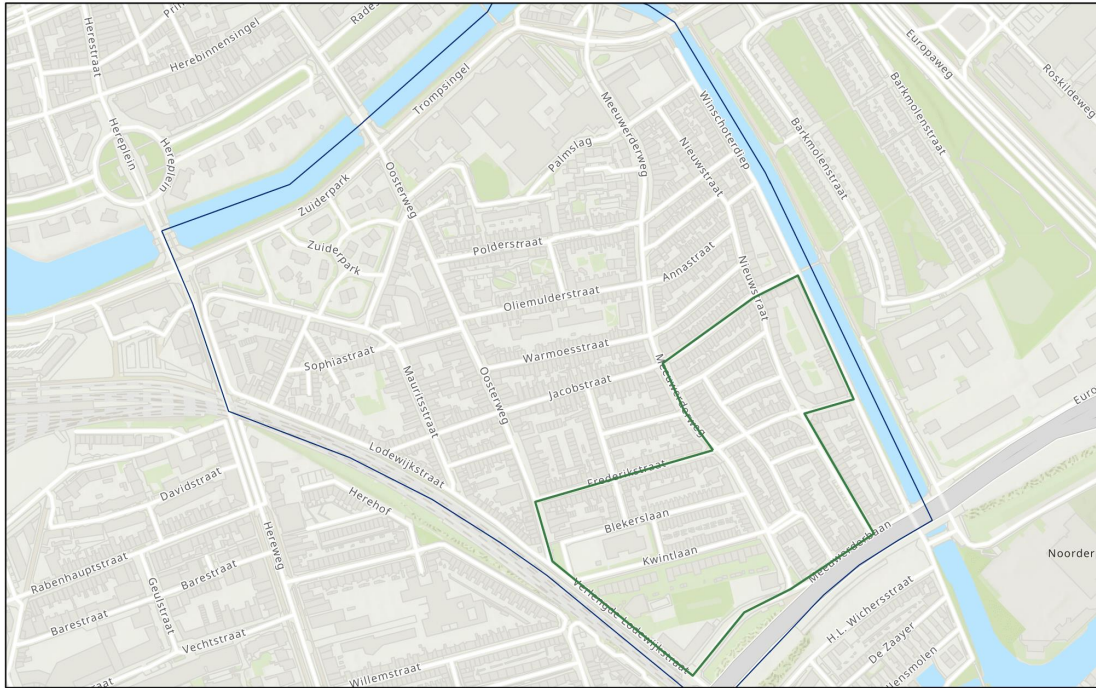
Route P3



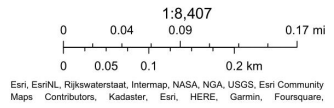
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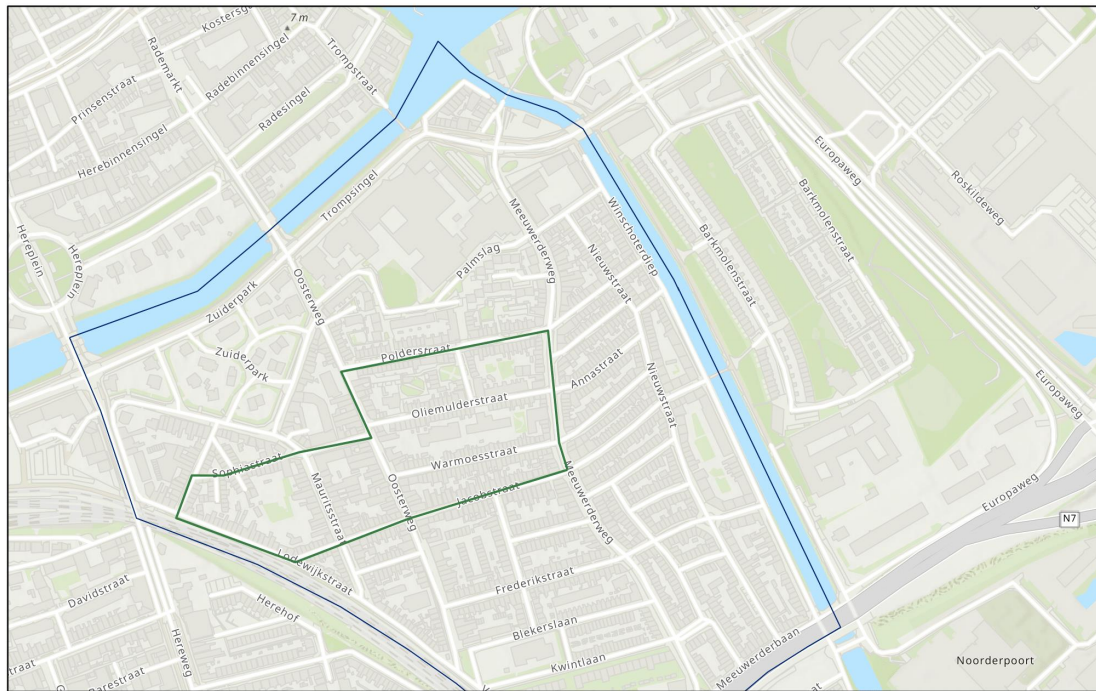
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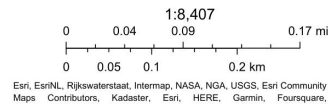
4-7-2022



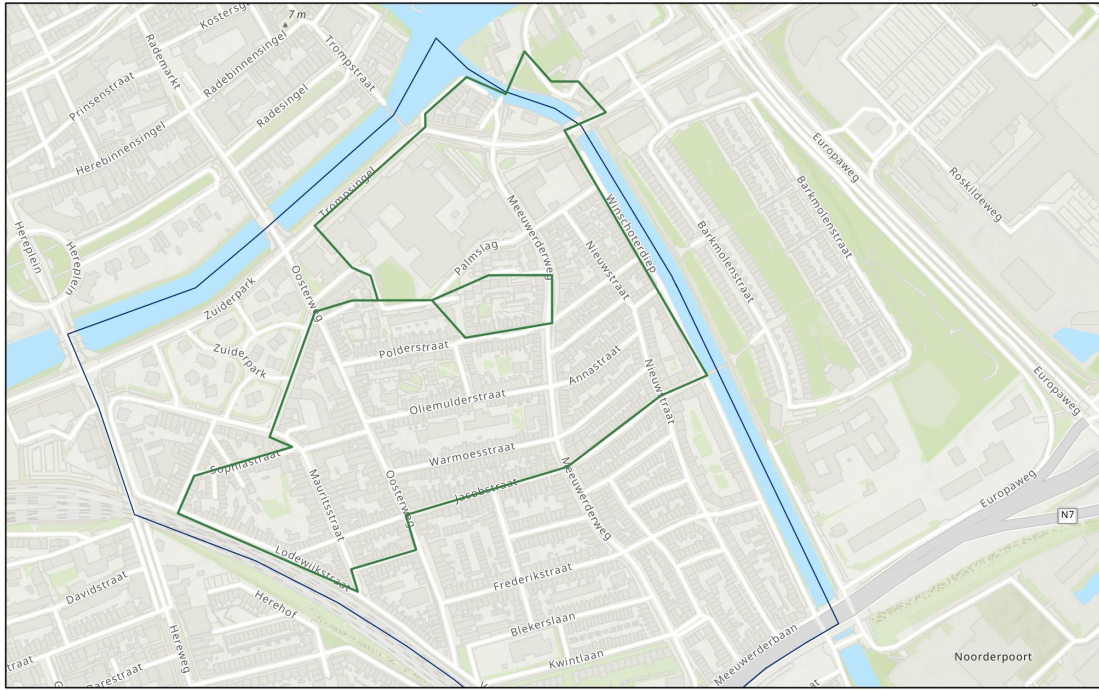
Route P5



4-7-2022



Route P6



4-7-2022

