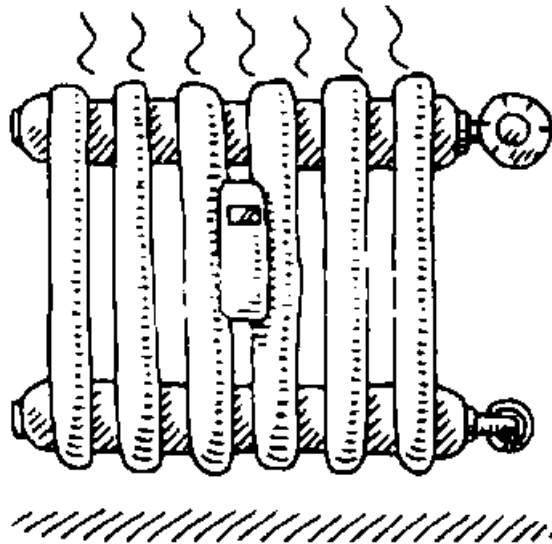


The Influence of Public Participation and Energy Justice on the Heating Transition in Mariahoeve, The Hague

An explorative case study on the heating transition

Master of Science in the field of Industrial Ecology

13-08-2020



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Acknowledgements

First of all, my gratitude goes to my supervisors. The present study would not have been completed without the constructive and encouraging feedback of my first supervisor Thomas Hoppe and the well-formulated questions from my second supervisor Udo Pesch. Secondly, qualitative research in social science is also impossible without the time, input and willingness to collaborate of the interviewees, participants, program managers and policymakers in The Hague and Mariahoeve. Without their efforts in the heating transition and their openness, insights and time it would not have been possible to write the present study. Special thanks go to the coordinator of the heating working group who introduced me to many others involved in the heating transition. Finally, my parents deserve gratitude for supporting to write everything down amidst the Covid crisis.

Glossary

EPA	Environment and Planning Act
DH-system	District-Heating System
DSO	Distribution System Operator
HEN	The Hague Heating Network
HT	High Temperature (>70 degrees)
HWG	Heating Working Group
LdhM	Leiding door het Midden – Heating infrastructure project from PoR to The Hague
LT	Low Temperature (<40 degrees)
PoR	Port of Rotterdam
Preferred scenario	Onderbouwing Voorkeursscenario (2019). Gemeente Den Haag.

Executive Summary

In 2019, policymakers and societal stakeholders agreed in the Dutch Climate Agreement to make the complete Dutch building stock energy efficient and carbon neutral by 2050. Following the agreement, Dutch municipalities are responsible for formulating concrete district level transition plans to decarbonize all buildings. This includes technical solutions and economic considerations, but during 2019 and 2020 it has become clear that the social and ethical dimension cannot be neglected. Municipalities cannot solve this complex challenge alone. Therefore the *“involvement, willingness to invest and support of citizens, companies and institutions is indispensable”* (Klimaatakkoord, 2019, p17). *Public participation* of building owners and inhabitants can help to understand what local stakeholders and building owners want. However, policymakers have to take multiple dimensions of public participation into account for it to be effective (Wilcox, 1994). More generally, the definition of what exactly public participation is and whether it enhances public acceptance or not remains contested. Furthermore, *acceptance* of energy infrastructure development does not imply its *ethical acceptability* by extension (Taebi, 2017). Many controversies related to new energy infrastructure development relate to a lack of understanding of their moral implications (Pesch et al., 2017). The concept of *energy justice* supports assessment of energy policy and can help identify where injustices arise, which stakeholders are overlooked and what remediation processes exist (McCaulley et al., 2013). The present study looks at public participation and energy justice in the heating transition in The Hague, using the Mariahoeve district as a case study. It will address the following research question:

How do public participation and the energy justice perceptions of local stakeholders influence heating policy formation related to new sustainable heating infrastructure in Mariahoeve, The Hague?

To answer this question three participation processes in which stakeholders in Mariahoeve could participate were analyzed. Based on reflective, empirical and qualitative research, categories for *public participation* and *energy justice* were defined. Both energy justice and public participation influence policy formation. The present study shows that the inherently local challenge of heating infrastructure development and policy formation is affected by existing municipal policy documents, budgets and management structure – but also by the involvement of the Dutch Ministry of Economic Affairs, the Province of South Holland and Parliament. This *institutional context* influenced the public participation programs in Mariahoeve and affected the energy justice perceptions of its participants. Rather than solely looking at *type of public participation* and *energy justice perceptions* separately, an analysis is included on how energy justice perceptions influence interactions between local stakeholders and policymakers during public participation processes. The analysis relates to the concepts of *overflowing* and *backflowing* as referred to by Pesch et al. (2017) that help to interpret how energy justice perceptions of decision-makers and stakeholders affect each other. The distinct combination of insight in institutional context, type of public participation and energy justice perceptions helps to better understand how the social and ethical dimensions of heating infrastructure development shape and are shaped by governance concerned with the heating transition in Mariahoeve.

Results

The institutional context was found to have a significant influence on the heating transition and public participation. Relevant policy documents like The Hague Energy Agreement, which describes the ambition to make 30,000 residential buildings sustainable, and the coalition agreements from 2018 and 2019 (which require the precedence of local and sustainable heating sources), shape the perceptions and expectations of policymakers and participants. They also influenced the justice

perceptions of participants. The budget and expected extra funds that would become available from the Eneco stocks owned by the municipality were expected to have a positive impact on the heating transition. The management structure of the municipality reduced the flexibility and adaptability of the program manager for the heating transition in Mariahoeve. The Alderman responsible for the heating transition was faced with contrasting incentives, with her need to achieve short-term success to be re-elected on the one hand, but also the importance of the heating transition requiring decisions that will bring in long(er) run return on investment on the other. Government institutions including the Ministry of Economic Affairs as well as the provincial and National Government negatively affected the participation process and justice perceptions of local stakeholders. The national government in relation to the Heating Law 2.0 and the Planning and Environment Act, the Ministry of Economic Affairs through its investment in the Leiding door het Midden (LdhM) project, and the Province with its decision to proceed with the permit procedures for the LdhM without the formal consent of the Municipality of The Hague. The absence of an updated national heating law, the investment in the Leiding door het Midden (LdhM) and the start of the permit procedure for the LdhM made it difficult for the municipality to provide clarity to participants about developments in the heating market. The lack of clarity incited experiences amongst participants of lacking recognition of their interests, considerations of their concerns and bias of the municipality.

In terms of public participation, the municipality is approaching the heating transition in Mariahoeve both bottom-up and top-down. The stance of the municipality was mostly to *inform* and *consult*, although in one participation process the stance is to *support independent community interests*. The purpose of participation differed per process, but *finding preferences* and *integration of local knowledge* seemed to be the most important.

It appears that the *framing* related to the LdhM and district heating systems by policymakers at the municipality and other government institutions has led to multiple instances of overflowing, in which the justice perceptions of participating local stakeholders were affected. Arguments for the investment decision of the national government in the LdhM, remarks of the alderman in the newspaper AD, and the proposed scenario with HT-DH-systems in Mariahoeve affected the justice perceptions of participants. In terms of procedural justice, the framing of the alderman, the investment decision of the national government and the decision to continue with the permit procedure decision by the Province negatively affected the perceptions of local stakeholders such as that they felt less *considered* in the participation process. As a result, participants perceived a lack of *process display, internal and external communication*, whereby some even questioned the *impartiality* of the municipality. After the preferred scenario was shared in Mariahoeve participants experienced concerns about *outcome fairness* and *favorability*. The formulation of the proposal by participants was a direct response to the sharing of the preferred scenario, and a call for *recognition* and a different *distribution of responsibilities*.

During the participation processes potential for backflowing occurred in multiple instances, in which the perceptions of stakeholders resulted in changes in policymaking. Certain remarks and demands of the participants have been included in the draft city-wide energy plan that was published in April 2020. In the context of the frontrunner group in Mariahoeve, communication consultants were not included in the process after requests of the participants. The willingness of the program manager, the program team energy transition and the alderman to engage in dialogues and take action indicates further potential for backflowing, but it depends on how policymakers act based on the feedback they received from participants.

Conclusion

Overall, the present research has shown that public participation and energy justice have had limited influence on policymaking surrounding the development of heating infrastructure in Mariahoeve. The institutional context has proven that it is just as, if not more, important to understand how the heating transition has been shaped. Public participation processes provide local stakeholders with the opportunity to share their justice perceptions with policymakers. The policymakers make the final call on how these perspectives are integrated in the decision-making process. Policymakers in The Hague do try to create transparent and inclusive participation processes and seemed to be open for input, although this remains a challenge. The lack of regulation and effects of other national and regional government institutions on large infrastructure projects like the LdhM seem to limit the capacity of local policymakers to effectively address all justice concerns and the influence participants can exercise through public participation.

Suggestions for further research

The present study has focused on public participation related to Mariahoeve. Future research could further develop theoretical frameworks of public participation and energy justice.

Due to the different participation-approach the municipality has taken in other districts than Mariahoeve, it could be interesting to analyze their energy justice perceptions and participation programs.

The present study has shown that *internal and external communication* and *recognition of claimholders* are perceived as problematic by local stakeholders in Mariahoeve. Future research could investigate what alternative participation and communication methods could be implemented in order to achieve a more representative view of communities affected in the heating transition.

The present study has shown that the framing of the decision-makers' trajectory has affected energy justice perceptions of participants. In future research, analyzing framing could be a potential pathway to investigate how these different energy justice tenets are interlinked.

Future research could investigate existing cases of area cooperatives (Gebiedscoöperatie/de coöperatieve samenleving; translation from the author) and their (potential) role in the heating transition.

Finally, future research could investigate how policy experiments could be formulated, especially with regard to LT heating sources, different types of market design, ownership and governance.

Policy Recommendations

1. The municipality should make clear to what extent and how the promises made in relevant policy documents such as coalition agreements can be fulfilled.
2. Surveys, longitudinal data collection and narrative analysis could help the municipality to get a more representative overview of what is important for local stakeholders.
3. The municipality should clearly define how the input of participants will be integrated, the extent of influence/political leverage they will have and when and what type of feedback will be provided in a (publicly available) participation plan.
4. The municipality should improve external communication through a better visible website and display more information.
5. The municipality should communicate formally with all inhabitants in Mariahoeve about the plans for the heating transition and how, when and where they can participate.

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Chapter 1 - Introduction

On 28 June 2019 the Dutch Climate Agreement was signed by the Dutch government and a large group of stakeholders to reduce global warming in line with the Paris agreement. One of the key sectors addressed in the climate agreement is the built environment. The parties agreed that in 2030 3.4 Mton of CO₂ emissions must be abated by making 1.5 million existing residential and non-residential buildings sustainable (Klimaatakkoord, 2019). To make residential buildings sustainable and decouple them from gas, a 'district-approach' has been chosen. Individual building owners are encouraged to renovate their buildings and the gas-free districts innovation program (Programma Aardgasvrije Wijken; translation by the author) would allow municipalities to experiment and learn to scale up transition efforts and the implementation of district-heating (DH) systems after 2021. For this complex challenge the *"involvement, willingness to invest and support of citizens, companies and institutions is indispensable"* (Klimaatakkoord, 2019, p17).

Dutch municipalities will play an important role for the heating transition on the local level (Tempelman & Van den Berg, 2019). Their role is essential to achieve the national targets to make 5000 housing units more sustainable each year between 2018 and 2027. In May 2020, the General Audit Chamber indicated in a very critical evaluation report that, since 2018, "only few" buildings have been made sustainable. The Audit Chamber continued to state that more insight into the timeline, costs and revenues are important for home and building owners and tenants because they will (in)directly bear the costs of the heating transition (Algemene Rekenkamer, 2020). The new coordinator responsible for the built environment in the climate agreement, Mr. Maarten van Poelgeest, indicated in May 2020 in an interview that municipalities have only just started to grasp the challenge of the heating transition (Van Santen & van der Walle, 2020). A major challenge is that local policymakers do not fully understand the wants and needs of building owners and inhabitants. *"It is time we start ringing the doorbell of citizens. That is very important and very labor intensive"* (Van Santen & van der Walle, 2020). Other problems faced by municipalities relate to *capacity*, a lack of *authority* and *affordability*, according to van Poelgeest.

Public participation of building owners and inhabitants can help to understand what local stakeholders and buildings owners want, and thereby be essential to the success or failure of the heating transition. Moreover, public participation is recognized as an important means to better understand and achieve social acceptance of new energy infrastructure development (Langer, Decker & Menrad., 2017). The awareness amongst policymakers about this is illustrated by the fact that numerous guidelines have been written for municipal policymakers to engage various types of local stakeholders (Buitelaar & Heeger, 2018; Spaans & Resink, 2019).

It is important to note that the mere *acceptance* of energy infrastructure development does not automatically equal *ethical acceptability* (Taebi, 2017). Many controversies surrounding the development of new energy infrastructure can be related to a lack of understanding of moral implications behind infrastructure projects (Pesch et al. 2017). Perceptions of *Energy Justice* of local stakeholders are therefore important to understand for decision-makers to achieve ethical and social acceptability for new infrastructure development (Jenkins et al., 2015; Devine-Wright et al., 2017). In recent years the value of Energy Justice as a lens to evaluate and inform energy policy has surged (McCauley et al., 2013; LaBelle, 2017; Jenkins, McCauley & Forman, 2017). The energy justice concept can be used to assess why controversies and tension between local stakeholders and policymakers emerge in relation to energy infrastructure development (Pesch et al., 2017). Moreover, it can aid to identify when and where injustices arise, which stakeholders are overlooked and what remediation processes exist (Jenkins, McCauley & Forman, 2017). These authors urge that the concept be used to analyze existing cases within the energy transition. Socially innovative

practices within the field of public participation can lead to improved energy justice, equity, and wellbeing of local communities (Hoppe & de Vries., 2019). More specifically related to urban energy policy, social innovation in this field can take the form of inclusive public policy through public participation or forms of self-governance. (Hoppe, Butenko, & Heldeweg, 2018).

Public participation and energy justice can support better understanding of complications faced by municipalities to develop sustainable heating infrastructure. As such, insights provided by public participation and energy justice can be valuable for policymakers that want to integrate stakeholder views or enhance public support for new heating infrastructure. One case where policymakers facilitate participation processes to this end is in the district Mariahoeve and Marlot (hereafter: Mariahoeve) in The Hague. In light of the challenge posed in the Dutch Climate Agreement, policymakers intend to construct a DH-system in the district halt its reliability on gas and provide it with sustainable heat. In early 2018, a consortium of stakeholders including the municipality, energy companies, distribution system operations (DSOs), citizen initiatives signed the The Hague Energy Agreement (2018) (Haags Energieakkoord; translation by the author) in which the ambition was expressed to start making 100,000 housing units in ten city districts in The Hague ready for sustainable heating. Around the same time, the municipality adopted relevant policy documents like the Program Plan Energy Transition (2018) (Programmaplan Energietransitie; translation from the author) describing a strategy to kick-start the heating transition in these ten city districts and involve local stakeholders in the process to realize the most suitable heating infrastructure.

Mariahoeve is part of these ten districts, and the municipality envisioned a high temperature (HT) district-heating system as the most suitable heating solution (Programmaplan Energietransitie, 2018). Since then, policymakers have initiated various participation processes in which local stakeholders in Mariahoeve have been able to participate and share their visions and concerns. These participation processes include, amongst others, The Hague Energy Network (HEN), the Heating Working Group (HWG) and the frontrunner group Mariahoeve. Local stakeholders that are part of these processes in Mariahoeve represent homeowners, condominium associations, housing associations, and companies. These three participation processes are analyzed to better understand energy justice perceptions of these stakeholders and how the municipality of The Hague facilitates public participation related to the potential development of DH-systems.

In general, the present study aims to understand how policymaking in the heating transition in Mariahoeve has evolved. Studying participation and energy justice separately would provide only partial insight in why participants have their justice perceptions or how the participation process affects policymaking. Therefore, the type of public participation, the energy justice perceptions of stakeholders *and* the local institutional context influenced the policy-making process are analyzed. After describing what public participation processes have been established, energy justice perceptions of participating local stakeholders are analyzed. Finally, insights from both are used to evaluate the role of justice perceptions on interactions between local stakeholders and policymakers during or related to participation processes.

1.1 Research objectives

Public participation in the heating transition has evolved only recently in the Netherlands as a topic of academic analysis, and consequently there are not many assessments of preferences of local stakeholders related to governance of heating infrastructure in the academic literature (Heldeweg, Sanders and Bunnekeerf, 2017). The objectives of the thesis are therefore to explore and describe how energy justice and public participation influence decision-making processes and policy formation

in the heating transition, for which qualitative research methods and a case study design will be applied. The research objectives in this MSc thesis research project are to:

- Describe the socio-demographic and institutional context in which the heating transition and the participation processes take place in Mariahoeve;
- Describe the types and form of participatory processes in which local stakeholders can partake in Mariahoeve;
- Analyze the perceptions of initiators and participants in this participation process analyzed through the lens of energy justice and public participation;
- Better understand how the institutional context, participation process and justice perceptions influence interactions between local stakeholders and policymakers in the heating transition in Mariahoeve.

The research in the present study is guided by academic theory related to public participation and energy justice. The thesis aims to contribute to a deeper academic understanding of participatory processes, energy justice and the heating transition in The Hague and can function as a building block for further theory elaboration related to these fields.

1.2 Relevance for Industrial Ecology (IE)

Industrial Ecology is a scientific discipline that combines, “*an interdisciplinary approach, integrating an engineering, environmental and social science perspectives*”¹. The present study mainly focuses on the social science aspect that is essential for achieving sustainable development, but is also related to the environmental and engineering perspectives. Better understanding the social science aspects of heating infrastructure development, however, is highly relevant in the case of the heating transition because, most especially because it is in Mariahoeve that DH-systems will be developed. Research in district heating has focused on the technical-economic aspects, but a lack of insight into the political processes and social aspects related to the implementation stresses the need for research in this direction (Webb 2015). Instead of applying conventional analysis tools for Industrial Ecology, such as life cycle assessments (LCAs) or material flow analyzes (MFAs), I decided to apply qualitative research methods and techniques to explore the social and political aspects related to the heating transition and DH-system development in Mariahoeve. Such insights contribute to the academic field of Industrial Ecology and could be used by policymakers and other stakeholders involved in the heating transition.

1.2 Research question and sub-questions

The research question central to this MSc thesis is:

How do public participation and the energy justice perceptions of local stakeholders influence heating-policy formation related to new sustainable heating infrastructure in Mariahoeve, The Hague?

There are three relevant aspects of this research question that stand out. Firstly, the focus on the energy justice claims of local residents related to new sustainable heating infrastructure. Secondly, the focus on public participation processes related to new sustainable heating infrastructure. Finally, the decision-making processes surrounding new sustainable heating infrastructure. In reality, these

¹ Website Industrial Ecology. Leiden university. Accessible at:
<https://www.universiteitleiden.nl/en/education/study-programmes/master/industrial-ecology>

three aspects of the heating transition do not exist separately from each other, and developments in one of these three aspects might affect the others. For the sake of the analysis these will be conceptualized and analyzed separately through the formulation of research sub-questions. These sub-questions are conceptual or analytical, will build upon each other, and will help to structure the thesis. The sub-questions are:

- 1) What are suitable categories to operationalize “Public Participation” and “Energy Justice”?
- 2) How does the institutional context in The Hague affect public participation and energy justice perceptions in relation to the heating transition in Mariahoeve?
- 3) In what sort of public participation processes can stakeholders in Mariahoeve partake, and how is this organized?
- 4) What are energy justice perceptions of local stakeholders that participate in the public participation process?
- 5) What is the role of energy justice perceptions in the interactions between local stakeholders and civil servants in relation to heating-policy formation in Mariahoeve?

Each sub-question will be elaborated upon in separate sections of the present study report.

1.3 Outline of the research

The thesis is structured as follows. In **Chapter 2** a literature review on the heating transition in the Netherlands, public participation and energy justice and the research gap are presented. In **Chapter 3** the first sub-question will be answered by developing operational categories for public participation and energy justice. **Chapter 4** contains the methodology and research design of the present study. **Chapter 5** contains the introduction of the case study Mariahoeve. **Chapter 6** will answer the second sub-question and include an analysis of the institutional context in The Hague, describing how relevant policy documents, budgets, management structure and organisation and government institutions affect the participation process in Mariahoeve. **Chapter 7** will answer the third sub-question and analyze three participation processes in which local stakeholders in Mariahoeve can participate. **Chapter 8** will answer the fourth sub-question and present an overview of energy justice perceptions of local stakeholders in Mariahoeve. In **Chapter 9** the fifth sub-question will be answered in which the influence of these justice perceptions on interactions between policymakers and local stakeholders will be analyzed. In **Chapter 10** the conclusion of this MSc will be presented including the discussion, policy recommendations and pathways for future research.

Chapter 2 - Literature review

2.1 Heating transition in the Netherlands

The Dutch Public Authorities are working hard on the implementation of the Climate Agreement. The Climate Agreement has resulted in the establishment of the regional energy strategies (RES - Regionale Energiestrategieën) where local policymakers have to create a regional energy transition strategy. Another result of the Climate Agreement is the determination of a municipal vision on how to realize the goals of the heating transition (Lokale transitievisie warmte: translation from the author) which are expected to be finished in late 2021. In The Hague, the draft City-Wide Energy Plan (Draft Stedelijk Energieplan) was already completed in April 2020. In addition, the Environmental Visions (Omgevingsvisies) are amongst the most important planning tools to enhance the local energy transition (Tempelman & van den Berg, 2019). In these documents substantial input from local stakeholders should be integrated, which links policy formation to public participation. Parallel to the implementation of the climate agreement, the Dutch authorities are currently revising the Environment and Planning Act (EPA) (Omgevingswet) and Heating Law (Warmtewet).

This shows how the heating transition in the Netherlands is covered in multiple laws, and special attention should be paid to the role of the municipalities. In all these laws, the municipality is assigned a facilitating and connecting role (Tempelman & van den Berg, 2019). However, strategic support documents for Dutch municipalities indicate that in reality the municipalities can govern the heating transition in multiple ways, ranging from facilitator to owner (Buitelaar & Heeger, 2018; Spaans & Resink, 2019). Additionally, there is a lack of systematic assessment about preferences for specific forms of legal governance of heat infrastructures and how these can influence the success rates of establishing such heat infrastructures (Heldeweg, Sanders and Bunnekeef, 2017).

Within the heating transition in the Netherlands, DH systems are expected to play an important role to decarbonize the urban-built environment, in combination with other heating solutions such biogas and all-electric. In 2019, however, only approximately 400.000 Dutch households were connected to a DH system – out of a stock of 9 million (Berends, 2019). This number will have to rise if DH-systems are to contribute to further decarbonisation. Each municipality will have to consider the technical state of the buildings, the availability of heat sources and existing energy infrastructure to determine the best heating option (Tempelman & van den Berg, 2019; Spaans & Resink, 2019). Frameworks and regulations for DH-systems differ per country, but some questions are universally relevant, such as: 1) where to have district heating and where not to have district heating; 2) how the focus between energy conservation and heat production is divided; and 3) how to stimulate suitable integration of DH-systems with other elements of the energy system at large. (Lund et al., 2014).

DH systems face challenges related to public procurement, fair prices for end-users and sufficient societal support (Tempelman & van den Berg, 2019). Overall, successful implementation of DH-systems requires municipalities to have expertise in economic, technological, judicial and social-scientific fields. Even though the municipality is targeted in all the above-mentioned laws and has a crucial role to play in the development of DH-systems, the exact role the municipality is still undefined. What is clear, especially in the context of the EPA, is the importance of early and effective engagement of local stakeholders and citizens. Without participation of local stakeholders, local policymakers risk issues related to social acceptance.

2.2 Public participation

Public participation in fields like environmental management, urban planning, health policy and energy policy is occurring regularly (Brody, Godschalk & Burby, 2003; Rowe 2000; Tritter & McCallum 2006; Wolsink 2007; Schroeter et al. 2015). What exactly public participation means, however, has been contested in the academic literature (Day, 1997). Furthermore, terms like community engagement, public participation and citizen participation are often used interchangeably (Head, 2008; Ross, Baldwin & Carter, 2016). The international association for public participation (IAP2) defines public participation as:

“a process that involves the public in problem solving or decision making and uses public input to make decisions. It includes all aspects of identifying problems and opportunities, developing alternatives and making decisions. It uses tools and techniques that are common to a number of dispute resolution and communication fields.” (IAP2 2010, p. 20).

When participation is mentioned in the present study it refers to the above definition. In general, citizen participation is seen as positive and in accordance with democratic principles (Callahan 2007). Although many agree on its importance, questions are raised as to how to implement participatory methods and how effective they actually are (Rowe & Frewer, 2000). The participation of local inhabitants and other stakeholders is often mentioned as a means to achieve public support in the heating transition (Tempelman & van den Berg, 2019; Spaans & Resink, 2019). Currently, however, municipalities do not always succeed in supporting socially innovative practices, both in their internal organisation as well as in their constituencies, while the need for democratic innovation and experimentation exists (Geus & Wittmeyer, 2019). More generally, citizens and planners regularly see participatory processes as unsatisfactory (Glass, 1979; Gaber 2019). This could raise the question as to whether this lack of satisfaction is caused by the effectiveness of the participatory methods that are applied. Although there is a debate about the flaws, failures and disadvantages of citizen participation, critique is often based on the assumption that these techniques are not applied properly when it does not deliver on its expectations (Innes & Booher, 2007; Wilcox 1994). These discussions about the form and nature of participation resemble debates about direct and indirect democracy in political science. In this parallel, direct public participation resembles direct democracy.

The main difference between direct and indirect democracy is that in the former citizens ‘own’ the government, while in the latter elected officials represent the citizens interests within the state (Callahan 2007). With direct participation, in turn, citizens actively engage and share power with authorities within decision-making processes, while with indirect participation elected officials make decisions for the citizens (Robberts, 2004). Political science, public administration and planning studies describe both advantages and disadvantages of direct participation in planning processes, which are relevant in the context of participation in the energy transition. This is because participation is seen as a central aspect of practice and discourse surrounding environmental policymaking (Rowe & Frewer, 2000; Collins & Ison, 2009).

Proponents of direct participation argue that allowing stakeholders to determine their own future it is morally good, because it strengthens democratic values, builds trust, and fosters a strong civil society (Callahan, 2007). It is also argued that direct participation has the power to legitimize, is protective of freedom, and can solve conflicts (Robberts, 2004). Opponents, on the other hand, point out that although direct participation is favorable, citizens can be passive or emotional, it can be inefficient and a cause of conflict (Robberts, 2004). Furthermore, direct participation requires skills, time and knowledge that not all citizens have (Callahan, 2007). It is clear these opposing perspectives are relevant in the case of direct citizen participation within the heating transition, because of the direct impact on citizens’ living environment but also because of the juridical and technical complexity involved.

2.2.1 Classifying public participation

One widely used model to classify public participation is Sherry Arnstein's "Ladder of Participation". Although published in 1969, its usage is still widespread decades later (Tritter & McCallym, 2006; Collins & Ison, 2009; Gaber 2019). Arnstein tries to answer the question about what participation is and differentiates between the extremes of real citizen power and participation as a window dressing on an axis. She states that "*citizen participation is a categorical term for citizen power*" which can be captured in an eight-step typology also known as "the ladder" (Arnstein 1969, p216). The higher a participation process is rated on the ladder, the more influential the citizens in a specific participation process are. The ladder includes from bottom to top: 1) manipulation, 2) therapy, 3) informing, 4) consultation, 5) placation, 6) partnership, 7) delegated power, 8) citizen power.

The eight steps can be summarized in three categories, with the first two steps representing non-participation. Non-participation is not a form of genuine participation, but indicates that power-holders or authorities try to enforce their views on the participants. The second category, 'tokenism', entails that participants can share their views and arguments, but have no guarantee that the power-holders will follow-up on participants sharing their views and arguments. In the third category, 'citizen power', participants have negotiating power or even a final say in the decision-making process (Arnstein, 1969). The framework of this eight-step typology has been applied by many authors and still inspires academic debates (Wilcox, 1994; Collins & Ison 2009, Gaber 2019). The model will be referred to as the "the Ladder Model". Despite its popularity, several authors have called upon evaluating the use of Arnstein's ladder because of its limitations (Tritter & McCallum, 2006; Collins & Ison 2009). Central critique is related to the lack of complexity, the undefined roles of government and citizen, the hierarchical structure and the lack of value to solve stand-offs between stakeholders.

Tritter & McCallum (2006) write about user participation in health care and criticize Arnstein for solely focussing on the dimension of power. Limitations relate do the lack of complexity, failure to consider process and outcome and no attention for methods or feedback systems. Other disadvantages of the model are that the endurance of the participation is not being guaranteed by the Ladder model. In order for the participation to be sustainable, the management and professional layers of all involved organisations need to agree with the form of participation. (Tritter & McCallum, 2006). Collins & Ison (2009) argue that to solve wicked problems no single stakeholder has the answer and that solutions for such issues require understanding of all the various perspectives involved, not only citizens. Moreover, the framework suggests that participation has failed if citizen power is not achieved, while in reality citizens can be content with consultation. What most critics agree about is that adequate models of participation related to complex issues require more attention for differences and dimensions of stakeholders and a reflection of the complexity of participation processes (Innes & Booher, 2007; Collins & Ison, 2009; Tritter & McCallum, 2006).

Wilcox (1994) has developed a theoretical model of participation inspired by the Ladder Model that integrates parts of the critique presented above. The aim of Wilcox (1994) was to provide theoretical framework and strategies for a growing number of decision makers and participation practitioners involved in community participation. Central ideas to achieve effective participation are: 1) that the appropriateness of participation methods and participant influence depends on the context; 2) rather than one community there are many stakeholders and interests to consider; 3) participation takes time, and 4) the initiator should provide clarity about the role it plays. Although the framework was developed based on Arnstein's ladder and includes a dimension related to participant influence, referred to as "stance" or "level". Hereby the influence is defined as something that depends on the stance of the initiator, rather than something the participants have. It also includes two other dimensions of "phases" in a participation process, depending on which the initiator has to address different issues or involve different stakeholders, and finally the dimension of the type of "stakeholders" involved and their influence and interests. These three dimensions together give a

more complete picture of participation. The theoretical framework of Wilcox (1994) therefore facilitates a conceptualization broader than Arnstein's Ladder of participation.

Brody, Godschalk & Burdy (2003) also go beyond the simple classification proposed by Arnstein, and define six strategic choices each organisation has to make when initiating a public participation process: 1) program administration; 2) objectives; 3) stage of engagement citizens; 4) how many and which types of stakeholders; 5) techniques, and 6) types of information. The program administration relates to the funds, training and manpower available in the initiating organization. The objectives of the participation are essential, and help to inform which stakeholders are being included in each stage of the process. Various participation techniques can be applied, for which specific types of information need to be shared with the participants (Brody, Godschalk & Burdy, 2003).

A better understanding these aspects of public participation can help classify participation programs and can support practitioners to design effective participation programs and evaluate the advantages, disadvantages and impact of different approaches. Differences and similarities between these theoretical approaches exist, and indicate relevant aspects of public participation.

2.3 Energy Justice

McCauley et al. (2013) were the first to introduce the concept of energy justice into the academic literature. They trace back the roots of the energy justice concept to the environmental justice movement which pursues fair and meaningful involvement of citizens in environmental policy in face of increasing industrial pollution in the 1970s. Energy Justice has three core themes, the central "tenets" which are *procedural justice*, *distributional justice* and *recognition justice*. Procedural justice concerns the fairness and inclusiveness of procedures, distributive justice concerns the fairness and favorability of the outcome and justice as recognition concerns the perceptions of individuals and whether they feel their concerns are actually considered in the process. Furthermore, a central aspect to these tenets of energy justice is participation, impartiality and information disclosure from the government in the context of procedural justice (McCauley et al., 2013). Energy Justice as a concept can facilitate the analysis of energy policy and participatory processes. Energy justice relates to the social responsibility of the private sector, the government and the public in relation to energy projects. More specifically, energy justice aims for the provision of safe, affordable and sustainable energy for all individuals. Instead of focussing on environmental policy, however, energy justice has energy systems as central object of analysis and focuses mainly on energy policy (McCauley et al. 2013).

LaBelle (2017) stipulates the differences between universal energy justice, which has a global scope, and particular energy justice, which is focussed on the local context. One issue with the concept of *universal* energy justice is that many policy structures and institutions are often still centered on the national or local level instead of the global level (Jenkins, McCauley & Forman, 2017). In the Netherlands, for example, the Dutch government and municipalities are responsible for the heating transition, but it would be difficult for the Dutch government to achieve global energy justice. Particular energy justice, on the other hand, includes the tenet *justice as recognition*, which focuses on local economic, cultural and social impacts. Justice as recognition is defined by two factors: the pre/absence of representation of social or interest groups, as well as the costs (environmental and economic) related to the technology and the policy (LaBelle, 2017). These two factors help to create insight in unique local situations and stress the link between particular energy justice and public participation. This integration of the local context is highly relevant in the case of the heat transition on a local level. Furthermore, the regulatory and legal structures present on local levels sometimes

block ethically just practices. This can be taken into account while thinking about how energy justice could be relevant to inform this hard policy context (Jenkins, McCauley & Forman, 2017).

Jenkins, McCauley & Forman (2017) specify that three aims for which the energy justice concept can be applied. Energy justice helps identify: 1) when and where injustice emerges, 2) which groups of stakeholders in society are overlooked, and 3) which remediation processes exist. The insights from energy justice research can assist to reveal and reduce such injustices. Another important aspect of energy justice is the temporal element, which can be in the form of intergenerational or intragenerational justice (Jenkins, McCauley & Forman, 2017). For concepts like energy justice it is important to go beyond the conventional view of energy policy, in which supply adequacy, cost minimalization and environmental targets can be supplemented with social and justice dimensions (Miller, Clark & O'Leary, 2015).

Besides analysing where and when injustices emerge, Pesch et al. (2017) show that energy justice can also aid in assessing why controversies surrounding energy projects arise. Within their analysis of formal and informal assessments of new energy projects energy justice claims explain different logics of citizens and authorities. Pesch et al. (2017) formulate three justice-related attributes related to 1) the way in which values are expressed; 2) the dimension of energy justice that is taken as starting point, and 3) the democratic legitimization of assessment trajectories. These attributes are the logic of value expression, the starting points of energy justice and the differences in democratic principles.

The energy justice concept can be used to analyze local heat transitions, but it can also be applied to analyze potential conflicts within these transitions. In the work of Ebe Blok (2018), a strong descriptive operationalisation strategy for the energy justice concept is presented. Each tenet of energy justice has received a sub-category which has been further specified into measurable aspects. Through the operationalisation of Blok (2018), the *perceptions* of the participating stakeholders can be measured, which does not automatically entail that these reflect reality.

2.4 Participation and Energy Justice

Public participation in energy policy and energy justice are concepts that relate to one-another. For example, fairness and justice can be the aim of a participatory process (Innes & Booher, 2007) or can be taken as a lens through which energy policy can be evaluated (McCauley et al., 2013). Simultaneously, it is said that if participation techniques are not applied properly they can result in higher inequality. Arnstein (1969) wrote her Ladder of Participation model to analyze participation and provide less privileged groups in society the power required to combat the injustices and take care of their communities. Simultaneously, there is a risk that current participatory models achieve the opposite of their intended goal (Snel, Custers & Engbergen, 2018). Citizens with higher education, higher income or more time are better equipped to participate and can therefore better advance their interests. In other words, instead of advancing justice, participatory models might actually enhance injustice. This raises the question of how justice can be evaluated in relation to energy projects. Energy justice is a concept that is suited to help answer this question (McCauley et al., 2013). Without proper categorization of public participation programs, however, it is difficult to assess why certain groups have more difficulty to participate. This illustrates the interrelation between public participation and energy justice.

2.5 Research Gap

In the academic literature, the research relating to district heating as a solution to decarbonize the building stock has mostly focused on the technical-economic aspects. A lack of insight into the political processes and social aspects related to the implementation of DH-systems stresses the need for research in this direction (Webb 2015). This will be done by analyzing public participation and energy justice in the context of Mariahoeve.

A general need exists to better classify and assess public participation programs (Wilcox, 1994). The literature review above suggests that public participation of local residents and other stakeholders is important to achieve the goals of the climate agreement and public support (Tempelman & van den Berg, 2019; Spaans & Resink, 2019). The municipality plays an important role in the unfolding heating transition and the facilitation of participatory processes. How they fill in this role can vary considerably (Tempelman & van den Berg, 2019). This makes it relevant to better understand the context in which the municipality operates and public participation processes are designed. Moreover, the involvement of various local stakeholders in different phases of public participation processes should be analyzed because this is still not fully understood (Lenhart, van Vliet, Mol, 2015). This stresses the necessity to apply and refine a classification of public participation that can be applied to the heating transition in Mariahoeve.

Secondly, although energy justice as a concept is well-established, the need exists for researchers to investigate energy justice implications for specific types of energy and its role in the wider energy system (Jenkins, McCauley & Forman., 2017). This highlights the relevance of investigating the justice implications of the relatively recent push for DH-systems in Mariahoeve and the Netherlands in general. Furthermore, the interrelation of energy justice and public participation is not yet completely understood by policymakers. A better understanding of both is necessary in order to prevent energy controversies from escalating (Pesch et al. 2017). Firstly, a proper understanding of methods can help communities better voice their concerns, and secondly, policymakers have to consider how to involve various territorial levels in which stakeholders are affected by the energy project (Pesch et al. 2017). Moreover, fairness and justice can be the aim of a participatory process (Innes & Booher, 2007) or can be taken as a lens through which energy policy can be evaluated (McCaulley et al., 2013). Because of the risk that participation methods might enhance inequality instead of preventing it, the application of the energy justice concept is so useful because it can aid to identify where and how injustices arise, who these stakeholders are that might be overlooked and which remediation processes are available (Jenkins, McCauley & Forman, 2017). As such, analysing energy justice perceptions of local stakeholders could aid in identifying where injustices are taking place (Jenkins et al., 2015) and provide local policymakers with insights to address this in the rapidly accelerating heating transition in Mariahoeve.

Finally, the regulatory and legal context must not be overlooked. This institutional context determines the functioning of public institutions like municipalities (Imbraruddin, 2003). Researchers *“should reflect on which areas of legislation and regulation are hindering ethically-just decision making, and secondly, how new concepts or ideas from energy justice might help us to inform this hard policy context”* (Jenkins, McCauley & Forman., 2017). This stresses the need to understand the (institutional) context in which decision-making about the heating transition is taking place.

2.6 Concluding Section

Knowledge about the social, ethical and political dimensions of DH-systems is lacking. The present study aims to address this research gap by providing insight into the social and political aspects related to the policymaking process to realise a DH-system in Mariahoeve. This is done by analysing

the type of public participation and the justice perceptions of participating stakeholders. The dominant framework to analyze the participation of stakeholders in public participation processes, the Ladder of Participation by Arnstein (1969) is considered oversimplified and must be refined (Tritter & McCallum, 2006; Collins & Ison 2009). The present study therefore aims to answer to this call to develop categories and apply categories for public participation based on the work of Wilcox (1994) and others and apply these to Mariahoeve.

To generate insight related to energy injustice, the abstract concept should be translated into an operational model (Hiteva & Sovacool, 2017). The framework of Blok (2018) is an example of such an operational model, but was developed for wind energy. The present study will apply the framework to heating infrastructure and evaluate if it is applicable, thereby contributing to the wider applicability of energy justice as an operational framework to analyze the heating transition. Furthermore, the interrelation between energy justice and public participation will be analyzed. This will allow for a better understanding of specific energy justice issues related to the development of heating infrastructure in Mariahoeve, and how these play up in and around participation processes and interactions between policymakers and local stakeholders.

Because the regulatory and legal context in which public participation and the heating transition take place are considered important, this will be analyzed in the case of Mariahoeve in The Hague.

Chapter 3 - Theoretical Framework

The theoretical framework consists of various elements that together answer sub-question 1: *What are suitable categories to operationalize public participation and energy justice?* The results of the framework are input required for the analysis and answering of sub-questions 3 – 5. Categories are developed for different aspects of public participation in section 3.1.1 – 3.1.7. Subsequently, in section 3.2 the concept of energy justice will be introduced, after which categories of energy justice will be described in section 3.2.1 – 3.2.3. Finally, the concepts of overflowing and backflowing, which allow for the analysis of energy justice perceptions in participatory processes, will be elaborated in section 3.2.4.

3.1 Categories for participation

To operationalize participation, the following six categories have been identified (see **Figure 1**). The choice for these categories is the result of combining concepts of the literature discussed in **Chapter 2** and the work of Wilcox (1994). The categories are *program administration*, the *purpose of participation*, the *stance of the initiating party*, *methods of participation*, the *information shared*, and finally *the phase of the participatory process*. These categories have been selected to identify core aspects of participation within the heat transition, to analyze what type of participation is taking place, and to bind them together. These five categories describe:

- The program administration;
- The purpose of the participatory process from the initiating party and citizens;
- The stance of the initiating party;
- The methods of participation that are applied;
- The information shared with the participants;
- The phase of the participatory process (which links and structures the five previously mentioned categories).

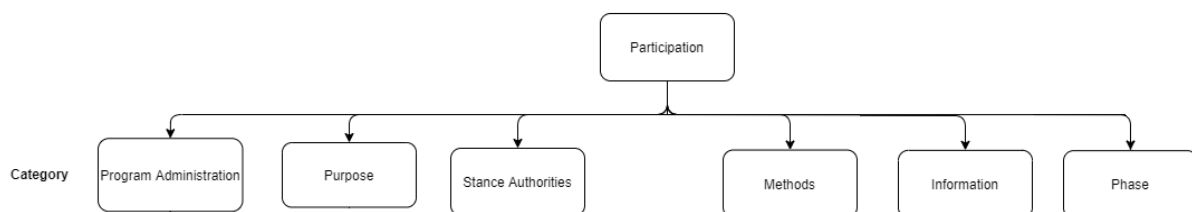


Figure 1. Categories of Participation

3.1.1 Program administration

One of the first questions that needs an answer is the number of resources that a planner has available for the participation program (Brody, Godschalk & Burby, 2003). Depending on the type of participation, budget, and time need to be made available because participation has a cost (Wilcox, 1994). Moreover, the program administration contains a participation plan and the involvement of staff needs to be specified. These plans can then be adopted by local authorities and spread to the public. Within the plan, guidelines should be provided on how various stakeholders can participate in the process. Furthermore, the initiators can decide to let their own staff work on the participation

process, or they can have staff with specific participation skills or to hire external consultants (Brody, Godschalk & Burby, 2003). Costs of external facilitators should be included in the budget (Wilcox, 1994).

Sub-categories and codes for program administration

Brody, Godschalk & Burby (2003) differentiate between two subcategories: a written plan for citizen involvement and the staffing for the participation process. The plan for citizen involvement contains the codes of *plan adopted by local governing body*, *plan disseminated to the public*, and *plan included in a comprehensive plan document*. The staffing for the participation process entails the codes of *special training for staff related to participation*, *the staff member assigned*, *percentage of time devoted to the task*, *consultant assistance in the participation process* (**Figure 2**) (Brody, Godschalk & Burby (2003).

Sub-category 1: Written Plan

When a written plan is drafted this does not automatically provide it with legitimacy. The plan can be *adopted by local authorities* to support the approach chosen by the planner (Brody, Godschalk & Burby, 2003). Furthermore, the plan can be *spread amongst the public* to create awareness about the upcoming participation process. However, not all authorities choose to spread these plans. Finally, the plan can be incorporated into a larger *comprehensive overview of the selected strategy* (Brody, Godschalk & Burby, 2003).

Sub-category 2: Staffing for Participation

In many constituencies, a *staff member* is assigned the task to manage a participation process (Brody, Godschalk & Burby, 2003). The *percentage of time* this staff member must work on participation influences how participation processes develop. At the same time, Wilcox (1994) points out the practitioners of participation have a large impact on the outcomes of the participation process. Therefore, the initiating organization sometimes decides to *train the staff* in the field of public participation or to hire *external consultants* to assist the in-house staff with the participation process.

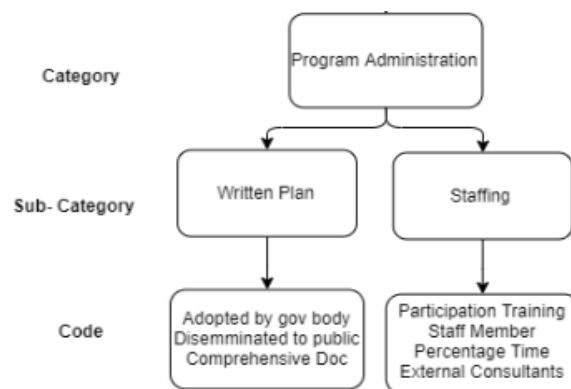


Figure 2 Subcategories and codes of Program Administration

3.1.2 Purpose of participation

When considering the purpose of citizen participation there are two broad school of thought: the first taking the citizen perspective, the other the administrative perspective (Glass, 1979). In the former, the participation is approached as a tool for citizens to improve the decisions made by the government. In the latter, the government involves citizens to increase legitimacy and trust. These two purposes, however, do not have to be mutually exclusive. Glass (1979) argues that for a

satisfactory participation process both the needs of citizens and government need to be considered, and for successful outcomes, a balance between both their interests needs to be found. Therefore, the purpose is relevant in light of participation in the heat transition. Because these two schools of thought describe important approaches towards public participation, the *administrative perspective* and *citizen perspective* will serve as sub-categories that include several more specific purposes for public participation. Because certain purposes are related to both citizen and administrative perspectives, the sub-category *combined perspective* is also included.

Glass (1979), for example, summarizes five specific objectives: 1) information exchange, 2) education, 3) support building to create a favorable climate, 4) decision making supplement, giving citizens access to input during the planning phase and 5) representative input aimed at getting an overview of the whole communities wishes. It is important to note that objective 2 and 3 do not include citizens in the actual decision-making process.

However, Glass (1979) was mostly writing about interactions between authorities and citizens. In the heat transition in The Hague, for instance, there are many other stakeholders involved. More contemporary authors have addressed this issue and formulated an expanded list. Innes & Booher (2007) list seven purposes for participation: 1) Finding out the preferences of the citizens, 2) improve the decisions by integrating local knowledge in the decision making process, 3) advancing fairness and justice, 4) getting legitimacy for public decisions and 5) requirements by law, 6) stimulate civil society and 7) foster institutional capacity. The authors stress the necessity for “collaborative participation” to achieve the sixth and seventh purpose, which requires the creation of a framework in which additional stakeholders and vested interests from the public and private sector are represented. This can constitute the development of networks, stimulates dialogue, and result in the required institutional capacity to address wicked problems (Innes & Bochner, 2007).

To successfully apply participatory techniques, defining the purpose of the participation, and communicating this with the participants is considered essential (Wilcox, 1994). The purpose of the participation should be clarified by the practitioner because the purpose of the process determines which stakeholders will benefit and therefore influences the involvement and commitment of participants (Wilcox, 1994). Robberts (2004) further stressed the potential of participation to solve conflicts. These specific purposes can be categorized based on the distinction between the sub-categories as explained below.

Sub-categories and codes for purpose

Three sub-categories for purpose are identified in line with the differentiation of Glass (1979): purposes in the context of an administrative perspective and purposes in the context of a citizen perspective. In addition, the third category of ‘combined perspectives’ has been included because some purposes can be used by authorities to build trust and gain legitimacy, while is simultaneously provides citizens a chance to influence policy. Each sub-category has specific types of purposes that will be specified below as serve as a code within the codebook. The administrative perspective, where authorities include citizens in decision-making to gain legitimacy, consists of four specific codes that will be elaborated upon below: *finding the preferences of citizens*, *building legitimacy*, *required by law*, and *solving conflicts*. The citizen perspective, where citizens use participation to improve decision-making, consists of two codes that will be explained below: *stimulate civil society* and *representative input*. Finally, there are three purposes that fit both the administrative and citizen perspectives: *advancing fairness and justice*, *building institutional capacity*, and *integrating local knowledge* to improve the decision-making process. These specific purposes will serve as codes in the

codebook to differentiate between the purpose(s) of the public participation in the heating transition in The Hague.

Sub-category 1: Administrative perspective

Finding out the preferences of citizens is one of the central aims of participatory processes (Brody, Godschalk & Burby, 2003; Innes & Booher, 2007). This information can play a role in the decision-making process, but citizens do not actively take part in that. Glass (1974) refers to the same but calls this information exchange. In his typology, finding out the preferences and exchanging information concerns bringing citizens in contact with planners to discuss a plan on a general level.

What differentiates finding preferences from *building legitimacy* is the level of detail from the information. Glass (1974) states that in the case of building legitimacy not only detailed information on the plan is provided, but also the motivations, constraints, and methods. This is sometimes referred to as the education of participants (Brody, Godschalk & Burby, 2003). Such a process, in which also the concerns and questions of participants are treated, can allow policymakers to claim that they spoke with the relevant stakeholders and that all questions have been heard, thus legitimizing the outcome (Glass, 1974; Innes & Booher, 2007).

Another possibility is that the participatory process is a *requirement by law* (Innes & Booher, 2007; Brody, Godschalk & Burby, 2003). An example is the expected involvement of Dutch citizens in the 'Omgevingswet' (Environment and Planning Act) where the input of citizens is considered crucial (Tempelman & Vd Berg, 2019). Other examples are the involvement of citizens in environmental impact analyzes, which are obligatory by law in many Western countries (Kolhof, Runhaar & Driessen, 2012).

Finally, Robberts (2004) states that through purposefully designed dialogues with the right stakeholders the participants can *cure conflict* and result in a common understanding of a problem. Actively steering towards mutual understanding in participation processes can be a cure for social conflict (Brody, Godschalk & Burby, 2003).

Sub-category 2: Citizen perspective

When public managers approach a participatory style that actively engages citizens this can *stimulate civil society* in terms of influence and skills (Brody, Godschalk & Burby, 2003; Callahan, 2007). A difference between civil society stimulation and legitimacy building or finding preferences is that in case of strengthening civil society the skills and influence of participating organizations and individuals increase (Callahan, 2007).

Glass (1979) describes *representative input* as the aim to collect data on the perspectives of an entire community on specific issues, as opposed to specific interest groups, so these insights might be used in subsequent plans. This differs from supporting civil society because it focuses as well on the less active citizens in a community, and by gathering data for future projects in contrast to ones that are being developed at the moment of participation.

Sub-category 3: Combined perspectives

Advancing fairness and justice can be the purpose of a participation process where the authorities aim to specifically address the concerns and views of citizens whose views are commonly excluded from the decision-making process through standard sources of information and analytical processes (Innes & Booher, 2007). This purpose is to foster trust between the authorities and citizens but also functions as a channel through which citizens can influence policy to support their interests.

Integrating local knowledge in the decision-making process is receiving more attention because constituents grow and authorities sometimes lack local knowledge (Innes & Booher, 2007; Brody, Godschalk & Burby, 2003). Glass (1979) stipulates this decision-making supplement, additional to the planning process because the planners have to take an extra dimension into account. What thus differentiates integrating local knowledge from building legitimacy is that the citizens have influence on the decision-making process.

The institutional capacity of (local) government is related to the capability of authorities to provide services to their constituents or customers (Imbaruddin, 2003). *Building institutional capacity* can be a purpose whereby authorities use public participation to foster an inclusive way of policymaking, the integration of local knowledge in planning, and the development of networks with local stakeholders to solve urban planning challenges (Healey, 1997). This requires an open policy culture and a willingness to work together with local stakeholders. Increasing institutional capacity goes together with fostering social, intellectual, and political capital because stakeholders understand each other's points of view while communication between stakeholders is facilitated within some sort of policy network (Innes & Booher, 2007). *Building institutional capacity* relates to both the administrative as well as the citizens' perspective, because it provides the authorities with legitimacy while allowing citizens to improve decision-making. Therefore, it falls under the combined perspective sub-category. The category of purpose with its subcategories and codes for the codebook is summarized in **Figure 3**.

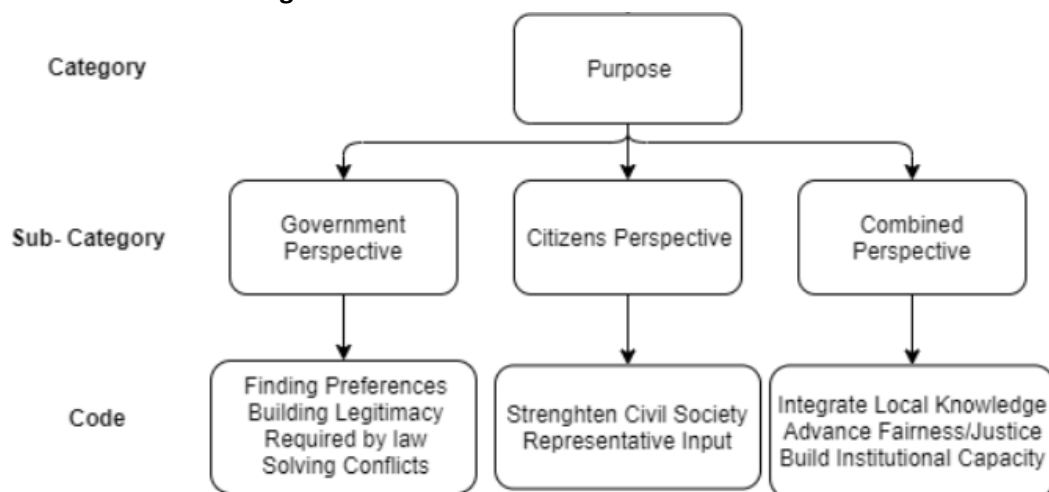


Figure 3. Subcategories and codes for Purpose of Participation

3.1.3 Stance of initiating organization

In his 'Guide to Effective Participation' Wilcox (1994) formulates a framework for effective participation. The framework is inspired by the work of Arnstein, but rather than describing the amount of citizen influence, it aims to conceptualize participation in a multidimensional framework. The theoretical framework provided by Wilcox has three dimensions in total, ranging from the stance of the participating organization to the phase of the participatory process to the stakeholders and their different levels of participation. Instead of the eight steps present on Arnstein's Ladder Model, Wilcox (1994) defines five stances the initiating organization of a participation process might take: information, consultation, deciding together, acting together, and supporting independent community interests.

The International Association of Public Participation (IAP2) has developed its 'spectrum of public participation' which resembles the five stances described by Wilcox (IAP2, 2018). Each step indicates a gradual increase of influence from citizens on the final decision. The five suggested steps are to Inform, Consult, Involve, Collaborate, and Empower. These steps seem to reflect the same essence as what Wilcox is describing, but focuses on the 'role of the citizen' and adds an extra layer by stating what each stance communicates towards the participants, the so-called 'promise to the public' (IAP2, 2018).

Wilcox (1994) stresses that four aspects of participation are important for deciding upon the choice for a stance. First of all, none of these stances is to be preferred over the other because specific situations might require different levels of participation. Additionally, within participation processes *the community* does not exist and that in reality many interests and stakeholders have to be considered. Moreover, time is important, and participation should not be regarded as the initiation of events but rather as a process that spans a specific period. Finally, the role of the initiator should be clear and straightforwardly communicated.

Sub-categories and codes for stance

Whereas Arnstein used to differentiate between three types of participation, Wilcox (1994) differentiates between two categories of stances an authority can take regarding participation: *substantial participation* and *participation*. These two sub-categories of Wilcox will be used as sub-categories within the codebook to differentiate between specific types of stances. In case of *substantial participation*, the initiating organization is allowing the participants substantial influence on the decision-making process, while in case of 'normal' participation the participants are only allowed specific types of information and control (Wilcox, 1994). The subcategory of *participation* consists of two specific stances *information* and *consultation*. These will be explained in the paragraph below and serve as codes in the codebook to identify the stance of the authorities related to public participation in the heating transition in the Hague. The subcategory of *substantial participation*, on the other hand, consists of the three specific stances *deciding together*, *acting together*, and *supporting independent community interests*, which will also serve as codes in the codebook.

Sub-category 1: Participation

The *information* stance entails that the initiating organization shares the existing plans with local stakeholders (Wilcox, 1994). This is the most basic form of participation with the least control for the participants. A message towards the public would be that they will be informed on the content of the plan (IAP2, 2018).

The *consultation* stance entails that the initiating organization shares existing plans with the local stakeholders but provides a limited number of additional options to the participants (Wilcox, 1994). Moreover, the initiating organization listens to the feedback of the participants. However, the initiating organization can decide what to do with this feedback. The consultation stance communicates to the public that they will be informed, their concerns and aspirations acknowledged, and feedback will be provided on how their input affected the final decision (IAP2, 2018)

Sub-category 2: Substantial Participation

The *deciding together* stance entails that besides providing the original plan and listening to feedback, the initiating organization encourages the participants to come up with other options and new ideas (Wilcox, 1994). Furthermore, the initiating organization invites stakeholders to join in with

deciding on which way forward is preferable. The deciding together stance communicates to the public that the initiator will work together with the participant so their concerns and aspirations are directly visible in the ideas developed and that feedback will be provided on how the input affected the final decision (IAP2, 2018).

The *acting together* stance provides the original plan, incorporates feedback, and invites participants to decide on which way forward. The difference with the deciding together stance is that the participants not only decide upon the way forward, they are also invited to join a partnership to implement the plans after the planning procedure (Wilcox, 1994). The acting together stance communicates to the public that their advice and innovative thinking will be requested in formulating solutions and that their views and recommendations will be incorporated to the largest extent possible (IAP2, 2018).

The *supporting independent community interests* stance is focused on helping the participants realize their own purposes (Wilcox, 1994). To structure the process the participants can formulate a plan within the framework of grants, technical, juridical and other types of advice provided by the resource holder. The *supporting independent community interests* stance communicates to the public that their decisions will be implemented (IAP2, 2018). The category of purpose with its subcategories and codes for the codebook is summarized in **Figure 4**.

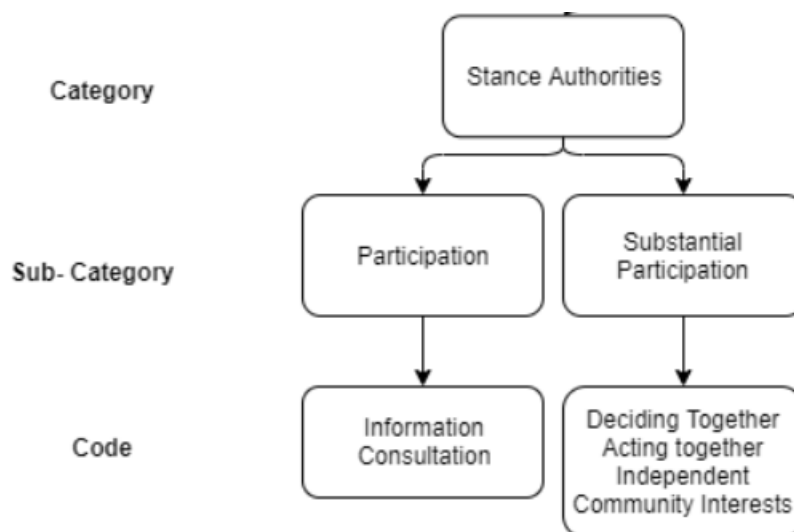


Figure 4. Subcategories and codes for stance authorities

3.1.4 Methods

A wide variety of different methods exists within the field of public participation, each with specific characteristics, advantages, and disadvantages (Glass, 1979; Wilcox, 1994; Rowe & Frewer, 2000; Brody, Godschalk & Burby, 2003; Head, 2007). The type of method applied can affect which share of the public is reached (Brody, Godschalk & Burby, 2003), have different effectiveness (Rowe & Frewer, 2000), and fit better to the stance of an initiating organization (Glass, 1979; Head, 2007). Therefore, categorizing methods is relevant in light of understanding participation.

Rowe & Frewer (2000) have developed a framework for the evaluation participation methods looking at their effectiveness in acceptance and process criteria. He evaluates referenda, public hearings, opinion polls, negotiated rulemaking, consensus conference, citizen jury/panel, citizen advisory committee, focus groups based on these criteria, besides describing types of stakeholders involved,

timespan, and method-dynamics. Brody, Godschalk, Burby (2003) differentiate between methods based on whether they are aimed at obtaining information or providing information. They further specify between face to face meeting techniques and other techniques. Techniques for obtaining input from formal public hearings, open meetings to specific workshops and surveys, while the provision of information is possible through educational workshops, conversation groups, and other communication channels.

Glass (1979), on the other hand, mentions specific methods per purpose of the participatory process. He states that for informative meetings, drop-in centers, neighborhood meetings, agency information meetings, and public hearings are feasible options. For consulting purposes, citizen advisory committees, citizen review boards, and citizen task forces are relevant methods. For deciding together purposes he mentions nominal group process, analysis of judgement techniques, and value analysis could be relevant. Furthermore, he mentions citizen surveys and the Delphi process as options (Glass, 1979). Head (2007) refers to a list of methods and techniques that are linked a dimension of participation as formulated by the IAP2. These five dimensions of the IAP2 indicate whether a degree of participation is present and consist of *inform*, *consult*, *involve*, *collaborate*, and *empower* (IAP2, 2018). Each of these five categories mentioned by the IAP2 thus has its own methods, and the analysis of which methods are used in a public participation process give valuable insights about the nature of the process. Therefore, similar to the analysis of Head (2007), these five categories will function as sub-categories for the overarching category methods. For example, the participatory methods for the “inform” sub-category include fact sheets, websites, open houses. For methods to consult this includes public comments, focus groups, surveys and public meetings. For methods to involve this includes workshops and deliberate polling. For “collaborate” methods it includes citizen advisory committees, consensus-building, and participatory decision-making. Methods to empower include citizens' juries, ballots, and delegated decisions. Wilcox (1994) categorizes methods as techniques, structures or long-term programs. Hereby the temporal aspect is important, with techniques being frequently applied short-term interventions by facilitators, while structures and long-term programs involve longer-term organizational structures ranging from public hearings to advisory committees and structural community-based cooperation. Wilcox (1994) also specifies a large number of methods per stance of the initiating organization, which is too extensive to cover here.

Sub-categories and codes for Methods

Because most authors refer to methods in relation to a specific stance, a similar approach has been identified for the techniques in this theoretical frame. For this purpose, both the five-stance differentiation of Wilcox (1994) as well as the five-stance differentiation of the IAP2 could be applied. Because the application of the methods lends itself more to be defined by the role of the public plays in them, as opposed to the stance of the participating organization, the categorization of the IAP2 is applied here. Thus, the subcategories for methods are: *Inform*, *Consult*, *Involve*, *Collaborate*, and *Empower* (IAP2, 2018). It must be stressed that organizations often use multiple methods in one participation process (Brody, Godschalk & Burdy, 2003).

Sub-category 1: Inform

Methods intended to inform have the only aim to convey information on a program (IAP2, 2018). Methods are *agency information meetings* and the *spread of information* through various channels.

Glass (1979) mentions agency information meetings. Agency information meetings are one-time meetings to explain the program of an agency and are only informative in nature. In addition, factual information can be spread through various channels (Head, 2007; Brody, Godschalk & Burdy, 2003).

Sub-category 2: Consult

Methods intended to consult are aimed at receiving input from the participants and providing the public with feedback on how their input affected the decision (IAP2, 2018). Methods to consult consist of *neighborhood meetings, public hearings, neighborhood drop-in centers, surveys, focus groups and educational workshops*.

Glass (1979) mentions neighborhood meetings, neighborhood drop-in centers, and surveys. Drop-in centers are permanent locations where planners and citizens can interact. Neighborhood meetings are organized with the specific purpose of generating reactions to particular plans or programs, while public hearings are held in accordance with statutes or regulations of an organization. The goal of these meetings is to generate reactions, but the initiating organization can decide how to use this information. Additionally, surveys can be used to gather information (Glass, 1979). Head (2007) and Rowe & Frewer (2000) additionally mention focus groups, which entail a free discussion on a specific topic with little intervention of facilitator, used to gather data on opinions. Public hearings are characterized by Rowe & Frewer (2000) as an open forum on a program of an organization where citizens/stakeholders can give feedback but have no impact on the final recommendations. Brody, Godschalk & Burdy (2003) mention educational workshops with the aim of spreading specific information on plans by an organization and receiving feedback from the public.

Sub-category 3: Involve

Methods intended to involve are aimed to involve the participants and make sure their concerns are reflected in developed alternatives while providing feedback on how input has affected the decision (IAP2, 2018). Methods to involve consist of *workshops and workgroups/subcommittees on specific issues*.

Glass (1979) and Brody, Godschalk & Burdy (2003) speak about workgroups and citizen task forces that work on specific issues and provide detailed feedback to the initiating organization. In turn, Brody, Godschalk & Burdy (2003) discuss workshops tailored to the specific issue to receive input or achieve specific aims together with the participants.

Sub-category 4: Collaborate

Methods intended to collaborate have the aim to incorporate the advice and innovative capacity of the participants for the formulation of solutions and aims to incorporate the feedback to the largest extent possible (IAP2, 2018). Methods to collaborate consist of *citizen advisory committees, negotiated rulemaking, consensus conference and citizen jury*.

Citizen advisory committees are an often-mentioned technique (Glass, 1979; Rowe & Frewer, 2000; Brody, Godschalk & Burdy, 2003). This entails a small group of participants to have structural contact with the initiating organization to discuss a significant issue.

Rowe & Frewer (2000) additionally mention negotiated rulemaking and citizen jury. In case of negotiated rulemaking a group of stakeholder representatives and members of the initiating organization work on a question to formulate a solution. Usually a consensus is required, which can subsequently be translated into regulation. A Citizens Jury involves a group from twelve to sixteen citizens that are tasked to formulate an answer to a question. In order to formulate a conclusion, the jury gets funding and access to experts from their own choosing that can help to inform their conclusions. Results and recommendations published in a report. Rowe & Frewer (2000) moreover mention the consensus conferences. Consensus conferences refer to a group from twelve to sixteen citizens under the lead of a facilitator that can interview a group of self-selected experts after which

they formulate answers to key questions. Results of consensus conferences can be presented during public meetings.

Sub-category 5: Empower

Methods intended to empower have the aim to give citizens the final say in the decision-making process. Methods to empower include *referenda* and *delegated power*.

Rowe & Frewer (2000) describe referenda as a form of participation in which citizens all get a voice and can choose between options. Usually, the results are binding. Wilcox (1994) describes that delegated power refers to committees where participants hold a clear majority of seats that have the authority to make a final decision. **Figure 5** gives an overview of the sub-categories and codes.

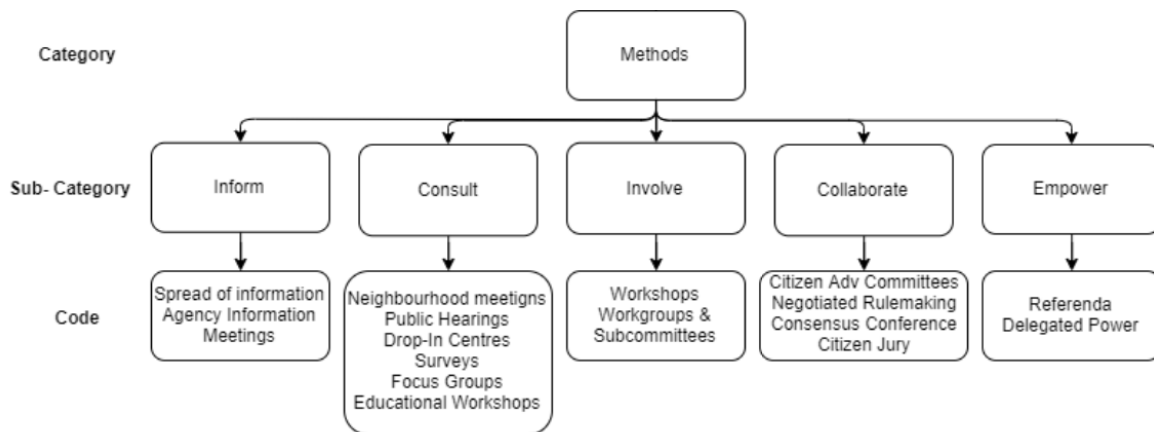


Figure 5. Subcategories and codes for Methods

3.1.5 Types of Information

Sharing information with participants is important in each form of public participation (Wilcox, 1994; Rowe & Frewer, 2000; Head, 2007). Information can be seen as power, and the type and amount of information shared with participants affect their capacity to constructively contribute to the participation process. Therefore, the information should be highly accessible and available in each phase of the participation process (Wilcox, 1994). Even though certain groups might ignore specific information, like what sometimes happens when citizen groups ignore technical information, it is still essential for the participation process (Brody, Godschalk & Burby, 2003).

Subcategories and codes for information

The information will be divided in the subcategories of *types of information*, mostly covered by Brody, Godschalk & Burby (2003) and *channels*, mostly covered by Wilcox (1994).

Brody, Godschalk, Burby (2003) provide a list of potential information that can be provided by an initiating organization. This list includes maps of the affected areas, growth projections/build out forecasts, summaries of plan elements or issue areas, vision statements, summaries of citizen input obtained through meetings/surveys, alternative planning design concepts or strategies, miscellaneous other types of information.

Wilcox (1994) mentions press conferences, videos, posters, radio, articles in newspapers, newsletters, leaflets, and presentations at meetings. Brody, Godschalk & Burby (2003) additionally mention public access cable television and websites. Additionally, in today's society, social media channels could be used to reach out to participants. **Figure 6** provides an overview of the sub-categories and codes for Information.

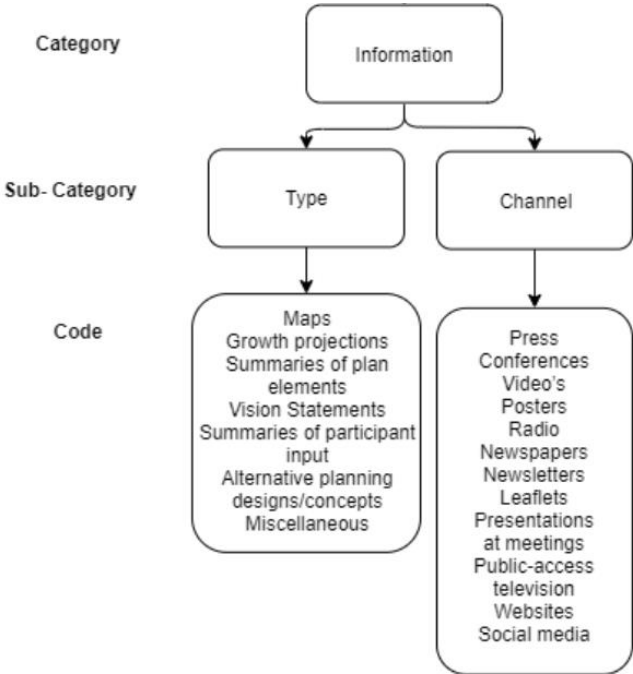


Figure 6. Subcategories and codes for Information

3.1.6 Phase of participation

Within a participation process the initiators of the process do not only have to decide how to involve participants but also when (Callahan, 2007). This stresses the importance to differentiate between different phases present in a participation process. Wilcox (1994) stresses that reality is complex and that these phases are not set in stone, because often initiators need to try out aspects. Nevertheless, certain aspects keep popping up, which can be categorized by the phases of participation. The previously described aspects of participation are defined by different phases of participation.

Brody, Godschalk & Burby (2003) differentiate between three phases: pre-planning, planning, and post planning. The authors conclude that it is important to already include citizens in the initial stage during the preplanning or visioning phase because if participants are not part of the complete plan-making process they will lack an understanding of the issues involved and the selected direction of the final plan. Wilcox (1994) has a similar approach but differentiates between four distinct phases: initiation, preparation, participation, and continuation. The main difference between the two conceptualizations is that Wilcox (1994) adds the initiation phase. This phase where the idea is brought up is not represented in Brody, Goschalk & Burby's (2003) analysis where it is assumed that there is already a cause for action. Both the approaches include a three-step approach with a phase before the participants are formally becoming part of the process and preparations are being made, a phase where the participation takes place, and a phase for evaluation (Wilcox, 1994; Brody, Godschalk & Burby, 2003).

Whereas authors critical of participation might argue that the incompetence of the participant is the largest roadblock to effective participation, Wilcox (1994) argues that lack of preparation from the

initiating party is just as if not more frustrating to participation processes than the ignorance or apathy of citizens and other community interests. The reason for this is that the organizations that initiate participation processes often act too quickly, lack clear objectives, are hesitant of sharing control, and rarely speak with a single voice. He stresses the importance of the preparation phase because participation professionals often state that the largest contributor to successful participation is good preparation (Wilcox, 1994). This indicates that understanding the phase of participation and acting accordingly is relevant for conceptualizing participation and can have an effect on the outcomes of participation processes.

Subcategories and Codes for Phase

The sub-categories and codes for the “Phase” category is essentially an “overview” or “meta” category that will be based upon the categories previously defined categories. The reason for this is that specific aspects of a public participation program, like the program administration, the purpose or the application of participation methods should be present in a participation program at a certain phase (Wilcox, 1994). The sub-categories for the “Phase”-category will be taken from the work of Wilcox (1994). The sub-categories represent the four distinct phases of participation: *initiation*, *preparation*, *participation*, and *continuation*. The specific codes that represent elements characteristic for each distinct phase of a participation process represent the presence, absence, and cohesion of the previously defined categories in section **3.1.1**, **3.1.2**, **3.1.3**, **3.1.4**, and **3.1.5**: *program administration*, *purpose*, *stance*, *methods*, and *information*. For example, without a program administration, a participation process will not get from the ground at all. Similarly, if the purpose of the participation is not defined in the preparation phase this might influence the effectiveness of the participation process to achieve its goals during the participation phase. In addition to the previously described aspects of phase, Wilcox (1994) states that two extra relevant factors can be included to analyze the phase of a participation process. It concerns the very start of a participation process, in the form of a *triggering event*, and the very end in the form of *evaluation*. These two extra codes will therefore be added to the list of codes for this “overview”-category. In the following paragraphs, the codes for each of the four phases will be elaborated.

Sub-category 1: Initiation

The *initiation* phase of participation is characterized by the triggers for participation and the earlier defined program administration (Wilcox, 1994; Brody, Godschalk & Burby, 2003). A participation process can be triggered by many different causes (Wilcox, 1994). An existing campaign may be turned into a formalized process, a governmental body might pursue a project or might announce that public funding for community projects is available. These triggers affect the setup for the second preparation phase because it relates to stakeholders involved and their interests (Wilcox, 1994). Therefore, triggers are relevant to analyze in light of participatory processes. To start of a participation process, the first requirements relate to the program administration: is there staff and budget available, do local authorities support the plan, and is the plan shared with the public? Once the program administration is agreed upon, the initiating organization will focus on the second phase: preparation (Wilcox, 1994).

Sub-category 2: Preparation

Wilcox (1994) defines three elements that are central to the preparation phase: defining the purpose, understanding key interests, and development of a strategy. Defining the purpose is essential for the success of participation and affects how the initiating organization will address participants and other stakeholders in later phases of the process. Furthermore, this purpose can

reflect the local realities, demands of key interests and the history of specific regions (Wilcox, 1994). In the purpose section above various goals and objectives have been described.

Understanding key Interests entails the scoping of the most important stakeholders, their power, and their views about the project (Wilcox, 1994). Brody, Godschalk & Burby (2003) suggest that in the early visioning process face-to-face meetings with key stakeholders can help to reach this goal, in addition to public attitude surveys by mail or phone. Furthermore, potential social, cultural, juridical, and other barriers for the participation process can be scoped (Wilcox, 1994).

When clarity on the purpose and the scoping of key interests has been finished the initiating organization can start the development of a participation strategy (Wilcox, 1994). Brody, Godschalk & Burby (2003) also stress the importance of the development of a work program that can be implemented. The aim of such a strategy is to get as much alignment as possible on the objectives of the participation process, the decision cycles, the to be applied techniques, ground rules, constraints, and other resources available to support participants (Wilcox, 1994).

Sub-category 3: Participation

Within the participation phase, the ‘participants’ are formally becoming part of the participation process (Wilcox 1994; Brody, Godschalk, Burby 2003). In this phase, specific methods are applied to facilitate the participation. Wilcox (1994) differentiates between three types of methods: techniques, structures, and long-term programs. Brody, Godschalk & Burby (2003) differentiate between methods to provide information to citizens and to obtain information from citizens. Other authors link specific techniques to the type of stance of organizations (Head, 2007; Glass, 1979) or provide a general overview of tools (Rowe & Frewer, 2000). Most important is that these methods should be applied after careful preparation and clear communication (Wilcox, 1994).

Sub-category 4: Continuation

What Wilcox (1994) describes as continuation resembles what Brody, Godschalk & Burby (2003) call post-planning. What happens in the continuation phase mostly depends on the purpose, stance, and techniques chosen by the initiating organization. In this phase, an *evaluation* can take place whether initial goals and purposes have been achieved and whether important stakeholders are satisfied (Wilcox, 1994). This could include reporting back on the consultation or a formal hearing on a proposed plan (Brody, Godschalk & Burby, 2003). An overview of the sub-categories and codes is presented in **figure 7**.

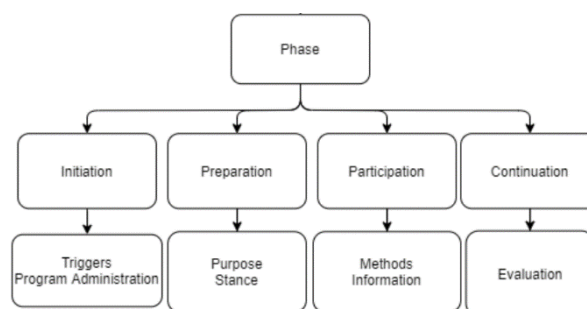


Figure 7. Subcategories and codes for phase

An overview of the codebook for participation can be found in **Appendix 1**.

3.2 Categories for Energy Justice

To operationalized energy justice the following three categories have been identified. The choice for these categories is the result of combining concepts of the literature discussed in **Chapter 2** and the work of Blok (2018), who built a codebook based on the three tenets of energy justice. The main categories being *procedural justice*, *distributive justice*, and *justice as recognition* (See **Figure 8**). Each of these categories will be discussed in the following sections, after which a codebook will be provided.

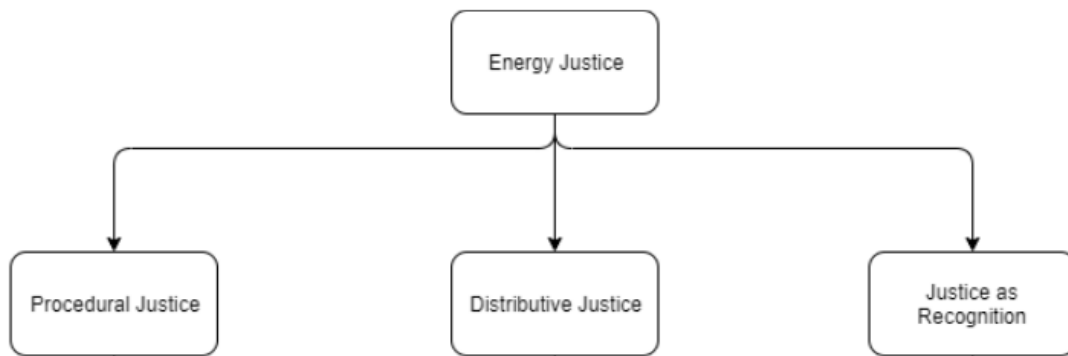


Figure 8. The three categories of Energy Justice.

3.2.1 Procedural justice

Procedural justice concerns the fairness and inclusiveness of procedures surrounding energy projects (McCaulley et al., 2013). It stresses the importance of participation in procedures of all stakeholders and that the input and feedback of stakeholders should be taken seriously. Procedural justice is therefore a suitable concept for the evaluation of participatory processes. The disclosure and availability of information are important within procedural justice because this allows participants to effectively participate (McCaulley et al. 2013). Blok (2018) states that procedural justice is used in fields like organizational theory, criminology, and business administration. Because of its wide application, different definitions of the concepts circulate within the academic field. And even if ‘procedurally just’ can be theoretically defined, opposing perspectives may continue to exist on the local implementation level of participatory processes and energy projects. Simcock (2016) showed that for the siting of wind farms different normative expectations about what procedural justice meant led to conflicting views, even though the initiator of the participatory process strived to create a just participation process. This indicates the importance to define and specify procedural justice.

Blader & Tyler (2003) argue that the fairness of a process is being perceived by participants based on formal rules about the decision-making setting and informal rules about the impartiality of the organizer. From this point of view, the process thus plays a role in the final perception of fairness.

To arrive at his categories for procedural justice Blok (2018) combines aspects from authors like Knudson et al. (2015) and Simcock (2016). Simcock (2016) includes three central aspects of procedural justice which are: inclusion, influence, and information. Knudson et al. (2015) identified additional aspects of procedural justice and summaries the total as: information, representation, consideration, voice, logic, and influence.

There are striking parallels between the aspects of procedural justice and evaluation criteria used to evaluate the effectiveness of public participation. Rowe & Frewer (2000) developed a framework to

evaluate public participation based on acceptance criteria and process criteria. Acceptance criteria include the representativeness of participants, independence of the process, early involvement, the influence of the participation on the outcome, and transparency of information (Rowe & Frewer, 2000). Process criteria include resource accessibility, clear objectives from the participatory process, clear structure of the decision-making process, and cost-effectiveness (Rowe & Frewer, 2000). This indicates that procedural justice is particularly suitable to evaluate the effectiveness of participatory processes in the heat transition.

In summary, Blok (2018) created four categories that make up procedural justice: *access to decision-making*, *influence on decision-making*, *communication of information* and *impartiality*. Each category is divided in sub-categories with corresponding codes.

Sub-category 1: Access to decision-making

Access to decision-making is further specified in the sub-categories *representation* and *facilitation* (Blok, 2019). Representation is related to the level of control of participants have to contribute to the decision-making process. Facilitation relates to how access to the decision-making process is facilitated by the initiating organization.

Representation can cause experiences of injustice as a consequence of the functioning of representative democracy (Blok, 2019). In a representative system, this could entail that politicians from outside the neighborhood or the city take decision about what happens in that neighborhood. Also, the representation of different interests in participatory processes can affect perceptions of representation. Blok (2018) refers to Azzi (1993) who indicates that the feeling of decision-control from the participants can be affected by the manner in which groups of stakeholders are represented. Codes to measure for the sub-category representation are the *composition of the elected government* and the *perception of representation* in the municipal government.

Facilitation relates to the effort made by the initiating party to facilitate citizen participation in the process. This relates both to the extent to which people can participate, as well as the timing and location of public events, (online) consultations, and more. Blok (2018) refers here to Ottinger et al. (2014) on how to properly facilitate citizen participation. *Timing*, *location*, and *additional resources* to support disadvantaged groups are therefore codes for the subcategory of facilitation.

Sub-category 2: Influence on decision-making

The second category concerns the perceived influence participants have on the outcome of the decision-making process. When people feel their input does not affect the outcome, a feeling of injustice might come up which affects the acceptance and support for projects (Ottinger et al., 2014). Influence on decision-making is further specified in the sub-categories of *voice* and *consideration* (Blok, 2019).

Voice represents the perception of participants on their ability to give input to and influence the decision-making process. Within participatory processes, there is an additional difference between people that are included in a form of citizen participation, whose comments will be coded with *internal voice* while people who are completely outside of the participation framework, which will be coded with *external voice*.

Consideration, which is strongly related to the voice sub-category, analyzes the perception of the participants about whether their input that has been expressed in terms of voice is being considered by the decisionmakers (Blok, 2019).

Sub-category 3: Communication of information

Information dissemination is important in the context of procedural justice because this determines how participants can participate (Knudsen et al., 2015). Blok (2018) developed four codes for the subcategory on the communication of information. These sub-categories are *process display*, *transparency*, *understandability*, and *accessibility*.

Process display covers justice claims about the communication of information on developments in the decision-making process (Portman, 2009). This sub-category has two codes, namely *internal process display* and *external process display* (Blok, 2019). Internal process display relates to the communication within specific groups that are involved in the participation process, while external process display relates to the communication about the decision-making process to the outside world.

Transparency is related to the degree to which participants in a decision-making process are allowed to know what other stakeholders are communicating with each other (Blok, 2019). There is a difference between transparency about the decisions including their consequences (transparency in rationale) and transparency about the factors considered to arrive at these decisions (transparency in the process) (Mansbridge, 2009). The sub-category contains codes for groups inside the participation process and outside the participation process.

Understandability relates to whether participants have the feeling they understand the information provided to them (Blok, 2019). This is important for a level-playing field and perceptions of fairness (Portman, 2009). Blok (2018) defines three codes for sub-category understandability as *jargon*, *tools* to make facilitate understanding (e.g. visuals), and *explanation* of difficult concepts.

Accessibility of information relates to the way in which the information is being shared with participants, or how easy it is to find or request information (Blok, 2019). This is relevant because only when information is available participants are being enabled to participate effectively and on equal footing (Simcock, 2016). Blok (2018) defines justice claims about accessibility with the code *ease of access*.

Sub-category 4: Impartiality

The last category of procedural justice, impartiality, relates to the perceived impartiality of the decisionmakers and the decision-making process (Blok, 2019). Impartiality is seen as essential for justice (Joss & Brownlea, 1999). This subcategory relates to the voting procedures within the representative democracy and the participatory process, and justice claims about the overall perceived impartiality of the decision-makers and the process. The perceptions of the impartiality of the process resemble the perception of impartiality of the initiating organization (Joss & Brownlea, 1999)

Blok (2018) defines no codes for impartiality but decided to focus on the impartiality of voting procedures and perceived impartiality overall process.

An overview of the sub-categories and corresponding codes is presented in **Figure 9**.

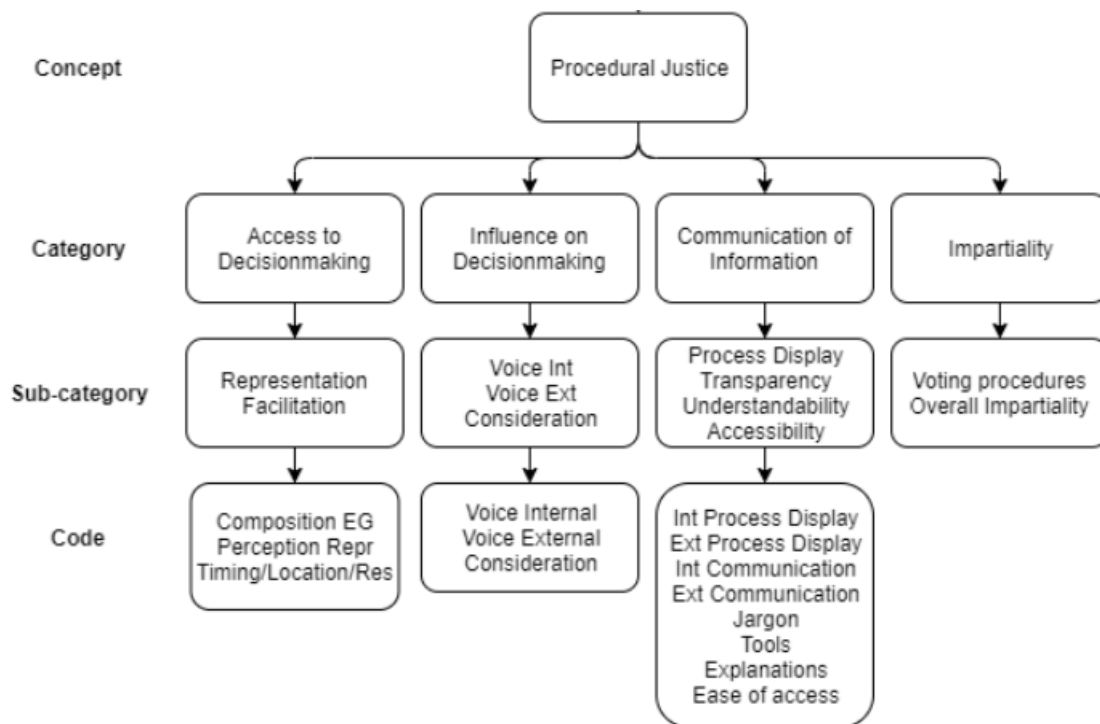


Figure 9. Categories, Sub-categories and codes for Procedural Justice

3.2.2 Distributive justice

Distributive justice relates to the fairness of an outcome and the favorability of an outcome. Blok (2018) defines two subcategories of *outcome fairness* and *outcome favorability*.

The perception of stakeholders regarding distributive justice of an energy project is affected by the location where they live (Heffron & McCaulley, 2014). In the case of wind turbine placement, for example, people living in closer proximity to the siting location have a different perception of fairness of the outcome than those living further away. Additionally, Gross (2007) argues outcome bias effect causes those affected by energy infrastructure siting decisions to be less impartial in judging the fairness of the process or outcome. Skitka et al. (2003) therefore differentiate between outcome favorability and outcome fairness. Outcome *favorability* is related to direct burdens or benefits to the individual, while outcome *fairness* assesses the degree to which a decision is justified by or consistent with an existing standard or procedure.

Blok (2018) adopts the approach of Skitka et al. (2003) and created the subcategories *outcome fairness* and *outcome favorability*. These two subcategories are relevant for both *burdens* and *benefits*, which are the codes per subcategory. Benefits and burdens are further specified to entail financial and non-financial outcomes (Blok, 2019).

An overview of the sub-categories and corresponding codes is presented in **figure 10**.

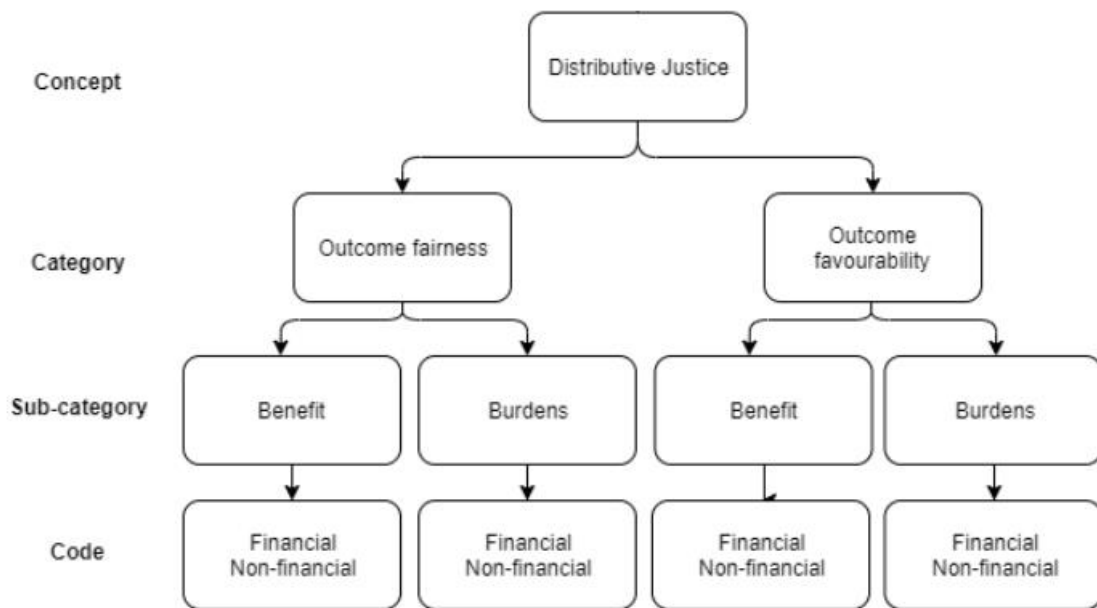


Figure 10. Categories, Sub-categories, and codes for Distributive Justice

3.2.3 Justice as recognition

Justice as recognition relates to the perceptions of individual participants and whether they have experienced that their concerns have been recognized (Blok, 2019).

Jenkins et al. (2015) identified three normative dimensions of justice as recognition: non-recognition, misrecognition, and vulnerability (lack of capacity to voice concerns). However, these are formulated from a normative point of view. Because the aim of Blok (2018) was to develop a descriptive set of categories focused on the perceptions of participants, he developed the sub-categories: *community of justice*, *justice as self-recognition* and *justice as responsibility*.

Sub-category 1: Community of justice

Community of justice relates to the stakeholders that are affected by an energy siting project. Schlossberg & Carruthers (2010) stressed the importance of indigenous rights, as opposed to project developers or local authorities. This indicates that when justice-claims are concerned, there is no single 'community'. Kahmann, Stumpf & Baumgärtner (2015) divide the justice community in claim holders and claim-addressees. When participants' concerns are respected and they have a say in the decision-making process, they become claim holders. The initiating organization or local authorities are those responsible for addressing their claims, the claim-addressees (Kahmann, Stumpf & Baumgärtner, 2015). Blok (2018) adopts this conceptualization of the community of justice, and the subcategory, therefore, differentiates between *justice-claim holders* (participants) and *justice-claim addressees*. Moreover, it also focusses on how the claim holders are being identified by the claim-addressees, in other words which claims are recognized, and how the claim-addressees view their own role as claim-addressee (Blok, 2019). Therefore, the codes for this subcategory are *internal claim holders*, *external claim holders*, *recognition of claim holders*.

Sub-category 2: Justice as self-recognition

Justice as self-recognition is related to the capacity of justice-claim holders to view their concerns as legitimate. Bailey & Darkall (2018) mention that an important condition for decisionmakers to take the concerns of participants seriously is whether these participants see their own concerns as legitimate. Furthermore, Bailey & Darkall (2018) state that two conditions need to be met in order to formulate justice claims: the awareness of the injustice and the ability to express the justice-concern. In addition, Pesch et al. (2017) write specifically about justice as recognition in relation to energy controversies. Hereby, they stress the importance of the capacity of groups to define their own identity and terms in relation to new energy projects, because it explains why the experience of injustice occur even in cases when distributive and procedural justice are adhered to. Building on the normative approach from Bailey & Darkall but formulating it in a descriptive manner, Blok (2018) formulates three codes for the justice as self-recognition sub-category related to their personal experience and perception. These are the *awareness of injustice*, *the personal viewpoint* and *references to similar situations* (Blok, 2019).

Sub-category 3: Responsibility

Responsibility to guard the justice within participatory processes surrounding energy projects is an important concept. Walker (2009) makes an argument that responsibility for the outcome of the participatory process is part of distributive justice. However, Blok (2018) disagrees and follows the line of reasoning of Jenkins, McCauley & Warren (2017) who claim the distribution of responsibilities over the whole spectrum of energy justice should be considered. This means responsibility for procedural justice, distributive justice, and recognition for multiple stakeholders involved in the (participatory) process (Jenkins, McCauley & Warren, 2017). The question is then who is responsible for guarding this responsibility in specific energy projects, but also what the perceptions of participants and other stakeholders are regarding who is responsible. Blok (2018) therefore developed the codes of *distribution of responsibilities*, *perception of distribution of responsibilities* for the subcategory of responsibility.

An overview of the sub-categories and the corresponding codes is presented in **Figure 11**.

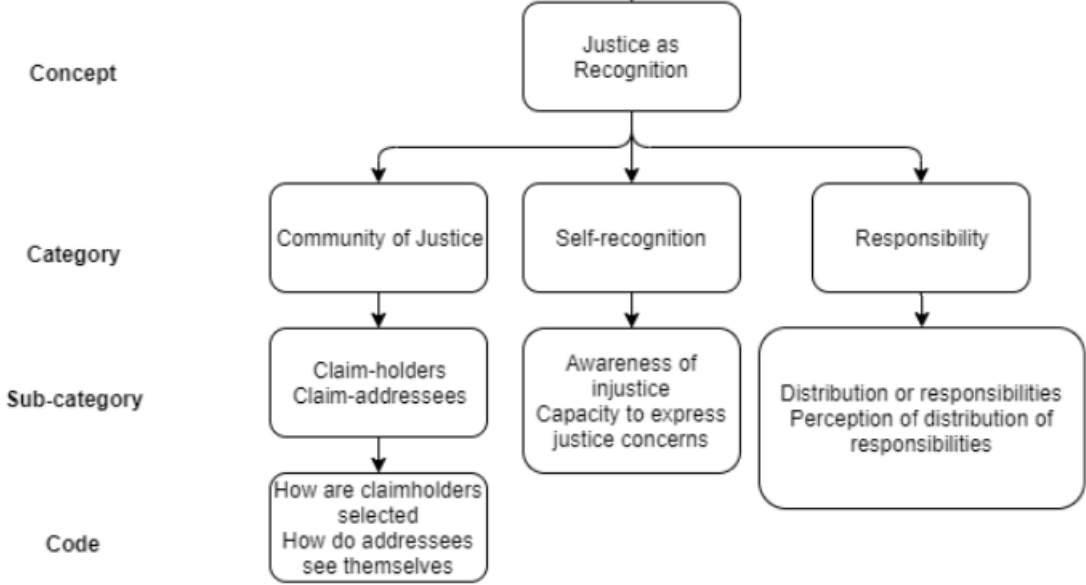


Figure 11. Categories, sub-categories and codes for Justice as Recognition.

An overview of the codebook for energy justice derived from Blok (2019, p47) is presented in **Appendix 2**. The following section 2.4 will describe the concepts of overflowing and backflowing, which facilitates the analysis of energy justice claims in participatory processes.

3.3 Overflowing and Backflowing related to participation

The analysis is based upon the concept of “overflowing” as identified by Callon (1998). As part of the study of externalities within economics, Callon describes overflowing as the result of the impossibility of ‘total framing’. Pesch et al. (2017) apply this logic to a context relevant in the heating transition and state that *“overflowing occurs when societal concerns emerge that are not (perceived to be) sufficiently covered in the prevailing sets of rules that are part of dominant institutional practices.”* (Pesch et al., 2017, p826). In other words, when not all the concerns of citizens in a neighborhood are sufficiently addressed by the initiating party, for instance in the case of the proposed construction of a DH-system, their reaction to this could be the result of overflowing. Groups of citizens might resist and challenge the proposed “frame” or proposal and the actors supporting it, resulting in controversy and utterance of energy justice claims.

Pesch et al. (2017) identify two parallel trajectories that inform perceptions about the decision-making process surrounding energy projects: the formal trajectory and the informal trajectory. These two trajectories can be recognized based on often opposing starting points for justice claims, are based upon different types of rationality, and appeal to different democratic principles. Consequentially, both trajectories have a diverging way of ranking, expressing, and legitimizing energy justice claims (Pesch et al., 2017). The formal trajectory consists of various legal tools, procedures, norms, and policy requirements that combined result in the value appraisal of a proposed energy project. However, the proposal or “frame” might not include all public values that are present in the local context where the project will be implemented. When overflowing occurs the underrepresentation of certain public values functions as a catalyzer for new networks and groups that advocate these missing values and alternative project valuations in debates, media, or public participation programs. In case such advocacy is effective, and the formal trajectory is changed, Pesch et al. (2017) define it as “backflowing”. What is striking is that often actors in both the formal and informal trajectories claim to act just and democratically legitimate. This divergence of views is the result of different logic of expression, different starting points of energy justice reasoning, and other appeals to conflicting democratic values (Pesch et al. 2017). Whereas the formal trajectory logic is leaning on institutionalized and universal tools within judicial rationality, the informal trajectory is often founded on narratives related to the local identity of affected stakeholders and the formation of such stakeholders around specific issues. Where the starting point of the formal trajectory is often procedural justice, the starting point of the informal trajectory is often justice as recognition. And while the formal trajectory stresses legitimacy through delegated authority of elected officials, informal trajectories point at the authority based on self-determination of their community. **Figure 12** depicts overflowing and backflowing framework.

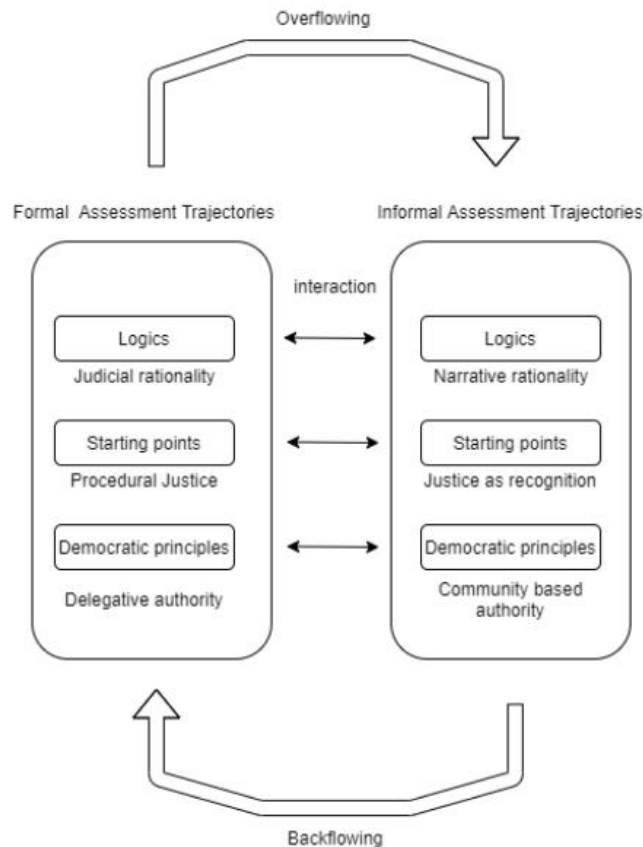


Figure 12. Overflowing and backflowing based on Pesch et al. (2017).

It is important to note that Pesch et al. (2017) see overflowing not as a sign of bad management, but rather as an inherent aspect of policymaking with the potential to increase democratic quality and decrease the risks of populist and technocratic decision-making. As such, overflowing must not be avoided, but governed.

3.4 Concluding Section

Within this theoretical framework, categories have been developed for public participation and energy justice. These categories will be used to analyze participatory processes and energy justice perceptions of local stakeholders in Mariahoeve. Inspired by the work of Wilcox (1994), Brody, Godschalk & Burby (2003) and others, the *program administration, purpose, stance, methods, information* and *phase* of public participation processes will be analyzed. Based on the work of Blok (2018), McCauley (2013) and others, energy justice perceptions are categorized as *procedural justice, distributive justice, and justice as recognition*. The work of Pesch et al. (2017) supports the analysis of how energy justice perceptions affect interactions between decisionmakers and local stakeholders in energy controversies surrounding new energy infrastructure development. Elements from this framework will be applied when analyzing the interactions between policymakers and stakeholders in Mariahoeve. In **Chapter 4** the methodological approach to apply the theoretical categories presented in this chapter will be described.

Chapter 4 - Methodology

The methodology structures the research and describes the research approach, the data acquisition process, the analytical framework, and finally how this will contribute to answering the main research question. The chapter is divided into five sections that describe different aspects of the methodology. As a starting point, **section 4.1** covers the research question and the research approach. **Section 4.2** covers the scope of the research and its research design. **Section 4.3** addresses the literature review and data collection methods, while **section 4.4** explains the framework used for the analysis of the data. Finally, **section 4.5** concludes this chapter and provides an outline of the next chapters.

4.1 Research approach

The initial focus of the thesis proposal was focused on how social innovation could contribute to the implementation of district heating systems. During the course of the research the concept of social innovation in the energy transition was therefore narrowed down to public participation. The importance of the local context for the development of sustainable heating infrastructure, which makes it difficult to compare case studies due to varying local contexts, led to the choice for a single case study design. The combination of highly local aspects, the rich abundance of various data sources and the complex socio-technical aspects of sustainable heating infrastructure legitimize this design choice. Within the case study design in section 4.2.1 it will be explained why Mariahoeve is a suitable, relevant, and unique case. Because of the single case study design, it is difficult to reveal causal relations between concepts or generalize results, but it is suitable to generate new insights about the heating transition. The thesis will entail explorative, conceptual, and analytical elements in order to better understand the local dynamics of the heating transition and to contribute to theory elaboration related to public participation and energy justice.

The heating transition is an ongoing process which is susceptible to changes in public opinion and political decision-making, which currently is at the center of public scrutiny and debate. Furthermore, new information has continuously been published on the website of the Dutch government and local government of The Hague since the start of this study. It has been attempted to incorporate as many of these documents as possible, but due to the continuous updates complete coverage of all public documents cannot be guaranteed.

Elements from grounded theory are applied to analyze the data gathered with qualitative methods. Hereby, the aim is to contribute to, elaborate on, and amend existing theoretical frameworks by means of reflective empirical qualitative research, not formal theory development. Similar to substantive theory development, the present study does not intend to have explanatory power outside of the demarcated field of study (Goulding, 2002).

4.2 Research design and scope

4.2.1 Case Study Design

The case study selection is based on a single embedded revelatory case study design. Yin (1994) states that “the revelatory case study” is suitable when a chance arises to analyze and observe a subject that initially used to be difficult to investigate for the scientific community. In the case of Mariahoeve, the participatory process related to district heating systems initiated by the municipality is a new phenomenon that fits this definition. “Embedded” case studies, moreover, entail multiple

units of analysis that can allow for a structured and enhanced understanding of the case. In the case study the units of analysis are a categorization of the public participation program itself and the experience of local stakeholders in the form of their energy justice perceptions and experience. This entails their experience of the participation process and the remarks, questions and attitudes related to justice in the energy transition.

4.2.2 Case Study Scope

Yin (1994) describes a case-study “as an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident” (Yin, 1994., p13). This makes it important in case study research to demarcate the scope of analysis. Within the present study the contemporary phenomenon researched is this study pertains to the public participation process surrounding new heating infrastructure in The Hague, with the neighbourhood Mariahoeve as case study. The scope of the present study is thus twofold, with a broad analysis of the municipal level and a specific analysis of the neighbourhood level. In reality, however, the heating transition is affected by external stakeholders from other levels as well. In the following paragraphs the choice for the scope of the thesis will be explained.

Municipality and district level

In the Netherlands, the heating transition is the subject of plans and policy on different institutional levels. The national government has been mediator and co-creator of the national climate agreement which outlines climate targets and policies for various sectors, including the built environment (Klimaatakkoord, 2019). The draft climate agreement states that the municipalities are obliged to formulate a Transition Vision Heating (Transitievisie Warmte; translation from the author) before 2021. Subsequently, the municipalities can start translating this transition vision into concrete neighbourhood implementation plans (Wijkuitvoeringsplannen; translation from the author) with a detailed plan to connect each building to sustainable heating sources. This makes the municipality the ‘director’ of the heat transition (RVO, 2019). Furthermore, the municipalities are simultaneously engaged in a dialogue platform with other regional stakeholders to formulate ‘Regionale Energiestrategieën’ (RES - Regional Energy strategies). The regional energy strategies (RES) creates a situation in which municipalities have to determine which areas are being connected to DH-systems (Huygen, 2019). Whichever plans are formulated on a national or regional level, in the end the municipality is responsible for concretizing these plans in collaboration with inhabitants and owners of buildings (Klimaatakkoord, 2019).

Consequentially, issues and controversies around new energy infrastructure development, like DH-systems, often take place on a local level and are mostly related to siting issues (Wolsink, 2006). Moreover, the local and regional nature of DH-systems differentiates heat networks from electricity and gas networks, which often have an international scale (Werner, 2017). Due to this local nature of heat sources and differences in building types, there can be large differences in heat availability within municipalities. Correspondingly, how national and global energy policy in the energy transition is shaped on a local level is relevant in light of new heat infrastructure development (Bulkeley & Kern, 2006; Broto, 2017). Researchers and policymakers are therefore interested in how municipalities can create a support base for DH systems on a municipal level. This makes the analysis of *municipal* energy policy regarding DH-systems and their approach regarding participation an interesting unit of analysis.

This is an important reason why the municipality has been chosen as scope for the present study. In summary, it is at the local level where controversies related to the siting processes of heating energy infrastructure take place (where will the infrastructure be built), and where a balance between national/city and host community interests needs to be found (Wolsink, 2006). That is why in the Dutch climate agreement takes a neighbourhood-focused approach (Wijkgerichte Aanpak; translation from the author) and explicitly mentions the participation of citizens and other local stakeholders (Klimaatakkoord, 2019). That is, in summary, why the scope of the municipal and neighbourhood level are addressed in the present study.

4.2.3 Case Study Selection

Especially when an author wants to contribute to theory development, the selection of a suitable case study design is essential (George & Bennet, 2004). Within The Hague there are 44 neighbourhoods (Kengetallen Den Haag, 2019). From all these neighbourhoods, Mariahoeve has been selected as the scope for the case study at the neighbourhood level. There are several reasons for this choice. An important factor contributing to the selection of Mariahoeve is that it is a “Groene Energie Wijk” (Green Energy Neighbourhood) or “focus neighbourhood”. Together with nine other neighbourhoods in the city, Mariahoeve has been declared a green energy neighbourhood by the municipal council (Coalitieakkoord, 2018). These neighbourhoods will be the first to make the transition to renewable heating sources. A second reason why Mariahoeve and Marlot has been selected is that in this neighbourhood the municipality is in charge of the transition process (Programmaplan Energietransitie, 2018). In other neighbourhoods, different public or private organisations are responsible. Because the municipality is in charge of the transition process, the case study might reveal relevant insight about the effect of municipal policies in practice. A third reason to focus on Mariahoeve and Marlot is that the municipality is already engaged in a participatory process in the neighbourhood for a longer time [Quote Interview Nynke/Lennart]. There seems to be a consensus that early involvement is important for successful citizen participation (Rowe & Frewer, 2000). Therefore, Mariahoeve and Marlot could be a promising case. Finally, Mariahoeve is a neighbourhood with a very ethnically diverse group of inhabitants and a large presence of housing corporations and social rent. These neighbourhoods generally have lower levels of citizen participation than their homogeneous native counterparts (Snel, Custers & Engelbergen, 2018). This makes Mariahoeve and Marlot a relevant case from the perspective of energy justice. The same social complexity in the neighbourhood Mariahoeve and Marlot can also be recognised in other large urban centers in the Netherlands like Rotterdam, Amsterdam and Utrecht. Therefore, the case study might generate analytical insights in dynamics related to sustainable heating and public participation in the Netherlands.

Relevance of the case study

To the knowledge of the author, there was no comprehensive framework to operationalize public participation, and the energy justice concept has mostly been applied to carbon capture and storage (CCS) projects, conventional energy projects and renewable energy generation projects. Therefore, the development of a categorisation of key aspects of public participation and the application of the energy justice concept to the participatory process related to the construction of new sustainable heating infrastructure is therefore relevant from an academic point of view.

Because the participatory process is still ongoing, the case-study can generate valuable insights for the involved policymakers in The Hague. Moreover, The Hague is one of the larger cities in the Netherlands that has started working on the heating transition since 2015. Not all municipalities had

started working on the heating transition at the start of the present study (DWA, 2019). The insights from the case study and institutional context might not be representative to other cases in the Netherlands, but can still generate valuable information to local policymakers that are early in the process or are still to start.

4.2.4 Research design

The research design diagram in **Appendix 3** shows a visual representation of the different steps taken within this research project. Each section will be described in the paragraphs below.

Conceptual section

The aim of the conceptual section is to answer the first sub-question: *What are suitable categories to operationalize the concepts of public participation and energy justice?* In both instances a review of the literature is at the basis of the code-book. The public participation categories have been developed completely by the author and aim to describe different dimensions of participatory processes. The categories for energy justice have mostly been adopted from Blok (2018). He stresses that the energy justice literature is mostly normative, but that the categories have been developed for descriptive purposes. The result of this section is a code book with categories for both concepts that subsequently can be applied in the analytical section.

Institutional context

The aim of the institutional context section is to answer the second sub-question: *How does the institutional context in The Hague affect public participation and energy justice perceptions in relation to the heating transition in Mariahoeve?* It is important to understand the institutional context in which participation programs are organised because this affects the design of such processes. *“The public sector institutional context, refers to the overall rules and procedures that govern government organisations and employees”* (Imbaruddin, 2003, p30). By means of qualitative methods the public sector institutional context, from now on referred to as institutional context, will be analyzed. The institutional context is not static and is affected by economic, social, political, policy and organisational factors. More specifically, the institutional context consists of concurrent policies, public services rules and regulations, budgetary support, role of the state, management practices and (in)formal power relationships (Grindle, 1997). The focus of this section will be on the aspects of the institutional context in relation to the public participation process related to the heating transition in The Hague. The result of this section is an overview of the institutional context in The Hague and Mariahoeve, which is the answer to the second sub-question and relevant for the next sections in order to categorise and analyze the public participation program in Mariahoeve.

Analytical section

The analytical section aims to answer the third, fourth and fifth sub-questions, which complement each other and allow to finally answer the main research question. Qualitative research methods will be used to gather data that will be analyzed through the lens of the result of the conceptual section. The third sub-question is: *In what sort of public participation processes can stakeholders in Mariahoeve partake and how is it organized?* The aim of this question is to analyze what type of participation program the municipality of The Hague is organizing. The analysis will be based on the categories for public participation following from sub-question one. The results of this first part of the analytical section will provide an in-depth overview of the participatory program. The fourth sub-question is: *What are energy justice perceptions of local stakeholders that are part of the public participation process?* The aim of this section is to create an overview of the experience in terms of

energy justice perceptions from the participants in the participatory process in Mariahoeve. The result will be an overview of the various types and frequency of energy justice perceptions from key stakeholders in the participatory process in Mariahoeve. Finally, the fifth sub-question is: *What is the role of energy justice perceptions in the interactions between local stakeholders and civil servants in relation to heating-policy formation in Mariahoeve?* The last section will analyze the role of energy justice perceptions in interactions through the concepts of overflowing and backflowing, as referred to in the theory in **Chapter 3.3**. The result of the last sub-question will form a starting point for the discussion and conclusion.

4.3 Data collection methods

4.3.1 Literature review method

Initially the focus of the literature was aimed at district heating systems, climate policy, urban energy policy and social innovation to grasp the complexity and technical aspects related to these fields. However, the focus of the thesis changed from broader topics like climate policy and social innovation to the more specific public participation and energy justice, which required a more precise literature review of these two concepts.

In order to complete the analytical section of the thesis, two separate literature reviews have been conducted, one to develop the code book for public participation, and another for the development of the code book for energy justice. Therefore, a double literature review was required.

It must be noted that the literature review for energy justice was smaller in extent than the literature review for public participation, because the energy justice framework in the MSc Thesis from Ebe Blok (2018) was already very well developed. Reinventing the wheel did not seem the best strategy, and therefore this framework has largely been used to construct the code book for energy justice. Therefore, the literature for energy justice has mostly focussed on contextualizing the work from Blok (2018) and has been of a general scope related to energy justice to introduce the concept, its tenets, and to link it to public participation.

The literature has been searched for in the Leiden University Catalogue and Google Scholar for both literature reviews. Below the category, journal, sub-category (if applicable) and key-words are shown in table 1 in **Appendix 4**. To write the code book for energy justice additional sources referenced to in the literature review of Blok (2018) have been reviewed and included in the text as well. Because these sources have not been collected during the literature review, they have not been included.

In table 2 in **Appendix 4** the category, journal, sub-category (if applicable) and key-words of the literature review into public participation are shown. In addition to the information from the literature review, literature has added that has been recommended to me by researchers, policymakers, practitioners and participants in the field of energy justice and public participation.

4.3.2 Qualitative Data Collection Methods

Qualitative methods are most suited in the context of exploratory research (Corbetta, 2003). In order to maximize the validity of the evidence presented, the triangulation method will be applied. Triangulation entails the consultation of at least three independent data sources that confirm a piece of evidence or finding (Yin, 2011). Sources of qualitative data are numerous and include direct observation, interviews, archival records, documents, participant observation and physical artefacts (Yin, 2011). Within this research project, most data will be collected in the form of documents,

interviews and participant observation. The following sections will describe how data has been gathered for these three data sources: direct observation, semi-structured interviews, and document analysis. For an in-depth theoretical discussion on why these methods have been selected, see **Appendix 19**.

Direct observation

For the purpose of the present study different types of meetings have been attended by the researcher. Criteria for the attendance of events were that it has to be related to the heating transition in Mariahoeve for the case study and The Hague at large for the institutional context. The events are presented in chronological order, including for which of these two thesis sections they were relevant. This could be to interpret the justice perceptions of participants in Mariahoeve, to investigate the institutional context or to see how the inhabitants of Mariahoeve interact with other neighbourhood representatives within the wider institutional context of The Hague. In addition to the name of the event, it is indicated whether it was a public gathering or not. An overview is presented in **table 1**.

Observation Number	Date	Name
The Hague Heating Network		
1	11-11-2019	HEN Meeting Market Ordering
2	14-01-2020	HEN Meeting New Year Reception
The Hague Heating Working Group		
3	18-10-2019	HWG Meeting about the heating transition in Amsterdam and abroad
4	17-01-2020	HWG Meeting with EnergieSamen and Duursaam Benoordenhout
5	21-01-2020	Meeting with citizen initiatives and Eneco
Frontrunner Group - Mariahoeve		
6	05-10-2019	Sustainability Festival Mariahoeve
7	12-11-2019	Meeting Duurzaam Mariahoeve - discussion of the Forgotten Scenario
8	15-11-2019	Visit - Hou van je Huis Mariahoeve
9	21-11-2019	ALV Wijkberaad Mariahoeve, presentation energy cooperative
10	28-11-2019	Koplopersbijeenkomst Mariahoeve
11	15-01-2020	Meeting Duurzaam Mariahoeve – Preparation event in neighborhood

Table 1. Overview of participatory observation events

Due to the Covid-19 outbreak, three events were cancelled or postponed. This includes the focus group meeting from the HWG where the alderman would have had a dialogue with the HWG-members, an event organized by participants of the frontrunner group in Mariahoeve about their idea for an area cooperative and the HEN-meeting about financing the heating transition and an event for participants of the frontrunner group hosted by the program manager in Mariahoeve to discuss how more local stakeholders in Mariahoeve could be involved.

Other relevant events for which documentation, personal communication or minutes are available, but where attendance was not possible:

- 2019-11-22 The consultation meeting with the HWG for the city-wide energy plan (Klankbord Groep Bijeenkomst (KBG); translation of the author);
- 2019-12-13 Meeting The Hague Heating Workinggroup;
- 2020-01-08 Municipal commission meeting addressing technical questions about the LdhM;
- 2020-02-05 Preparation meeting for the heating workgroup with Alderman L. van Tongeren.

Attendance was not possible because the researcher did not receive an invitation or there was a mismatch of planning. In addition, informal meetings have taken place with the engineering company involved in the Mariahoeve case, a communication agency involved in Mariahoeve, a housing corporation in Mariahoeve, the municipality of The Hague, and NGO Duurzaam Den Haag (hereafter referred to as Sustainable The Hague; translation of the author). No interviews or observations were made during these meetings. Notes were taken during these meetings.

Semi-structured Interviews

In exploratory research projects the interview is a relevant tool to understand the inner workings and motivation of the interviewee (Corbetta, 2003). Within the present study interviews have been held for two purposes, to better understand the institutional context and to gather data about the perceptions of energy justice in the neighborhood of Mariahoeve. Interviewees were approached and selected based on the criterion of relevance, being that they work in relation to the heating transition in The Hague or that they live in Mariahoeve or own property there and are involved with participation regarding the heating transition. See the **Appendix 5** for an overview of the interview questions. The present study does not aim to create a pool of interviewees that are statistically representative. On the contrary, the techniques used to make up the list of interviewees is focused on substantive representativeness. In **Table 2**, an overview is provided from the relevant stakeholders that have been interviewed, including for which thesis section they were interviewed, their name and their function.

Date	Thesis section	Function and Organisation
2019-11-26	Institutional Context	Senior Project Leader. Energy Transition Team of the Municipality of The Hague
2019-12-12	Case Study Mariahoeve	Participant 3, Frontrunner Group
2020-01-13	Institutional Context and Case Study	Coordinator HWG. NGO Sustainable The Hague
2020-01-16	Institutional Context and Case Study Mariahoeve	Program Manager Mariahoeve. Energy Transition Team of the Municipality of The Hague.
2020-01-30	Institutional Context	Coordinator HEN. Schuttelaar & Partners

10-03-2020	Case Study Mariahoeve	Participant 1. Frontrunner Group Mariahoeve
11-03-2020	Case Study Mariahoeve	Participant 4. Frontrunner Group Mariahoeve
13-03-2020	Case Study Mariahoeve	Participant 5. Frontrunner Group Mariahoeve
19-03-2020	Case Study Mariahoeve	Participant 2. Frontrunner Group Mariahoeve

Table 2. Overview of the interviews

Document analysis

Generally speaking there are two broad categories of documents that can be used in qualitative research: personal documents and institutional documents (Corbetta, 2003). Personal documents can be distinguished by their private nature, meant for the author only, like autobiographies, cover letters and diaries. Institutional documents, on the other hand, are the product of institutions or individuals within their institutional role. This category of documents contains minutes, reports, company documents, newspaper articles, judicial texts and more (Corbetta, 2003). Often, institutional documents have a public nature. An advantage of document usage is that they are non-reactive and facilitate the study of events in the past. For this research, mostly institutional documents will be analyzed. An overview of the reviewed documents is presented in **Appendix 6**. In addition to the public documents presented in appendix 5, numerous private documents have been analyzed. This mostly includes personal communication between participants amongst each other or with the municipality, or minutes of private meetings like the KBG meeting of the HWG.

Privacy

Because the heating transition in The Hague is a sensitive issue all names of the participants and coordinators that have been interviewed are anonymized. For interviewees, only the name of their organization is mentioned.

4.4 Analysis framework

The analysis framework has been developed in order to answer the third, fourth and fifth sub-questions. Goulding (2002) states that the analytical process related to grounded theory usually consists of coding strategies. Concepts are first organised in descriptive categories, which later allows for a re-evaluation of their interrelationships by means of analytical steps, which allows for a higher order grouping of concepts and explanation of the object of study. Multiple coding strategies exist to achieve this type of analysis. Glaser (1992) differentiates amongst others between open-coding and axial coding, in which the former revolves around constant comparison of data in order to derive meaning from the data, while the latter uses codes to ascend to a higher level of meaning and abstraction by describing relationships, constructs and categories related to central concepts. Both types of coding have been applied in the present study. The interpretation of the data based on open-coding was required in order to answer sub-questions three and four. Further analysis based on axial coding was used to re-evaluate the relationships between concepts and answer sub-question five to interpret the link between concepts and explain the development of the participatory process in Mariahoeve. The following paragraphs describe the code-book, how it will be applied, and how the institutional context, the public participation program in Mariahoeve, and the energy justice perceptions in Mariahoeve will be analyzed in order to answer the sub-questions in the present study.

4.4.1 Development of code-books

During initial observations, field research open-coding in the form of observation and notes were relevant to develop categories for public participation. Furthermore, a second form of open-coding in the form of a code-book has been developed to structure the interpretation of the data. The code-books for public participation is presented in **Appendix 1** and for Energy Justice in **Appendix 2**.

Use of the code book

The codes in the codebook will be used in line with how qualitative data should be stored in cases of observation, as described by Corbetta (2003). Especially in the case of the energy justice perceptions, which revolve around the personal view and experience of participants in the participatory process, it is important to use an ethnographic method of reporting and structuring of the qualitative data. Corbetta (2003) describes when, how and what to record, and he explains three fundamental aspects that should be included description, classification and reflection. These elements will therefore be used to format the open-coding process. An example is provided in **Figure 13** below.

Classification	Description	Reflection
Code-books	Quotes/piece of evidence	Interpretation researcher
e.g. <i>Adopted by gov body</i> or Internal Communication	e.g. <i>The name and content of the plan for participation adopted</i> or <i>Direct quote participant regarding information that was shared</i>	<i>The interpretation of the researcher about why this piece of evidence or quote is relevant and how it relates to the code</i>

Figure 13. Format or data structuring

4.4.2 Analysis of the institutional context

To get an overview of the institutional and its influence on public participation, qualitative research methods have been applied. Four elements of institutional context, according to Grindle (1997), will function as a framework to structure the interpretation of the data. These elements are: relevant policies, budgetary support, management practices and role of government institutions. This information is obtained from stakeholders that are part of the institutions initiating the participatory processes in The Hague and a document analysis. Appendix 20 shows visual representations of each analysis step.

4.4.3 Analysis of the public participation process

In order to analyze the public participation process, it was first necessary to understand the institutional context in which the participation took place. Qualitative data was collected related to the public participation process through the attendance of events, interviews, and relevant policy documents about the heating transition and participation. This information was interpreted with the code-book for public participation developed for sub-question one. The public participation program will be described using the classification, description and reflection steps detailed above, which will allow for an overview of what program is being implemented in Mariahoeve to be described. This will result in an answer to the third sub-question.

4.4.4 Analysis of energy justice perceptions and their role in interactions

The energy justice perceptions regarding the participatory process in Mariahoeve have been categorised based on the code-book developed by Blok (2018). The qualitative data collected related to energy justice has been derived from the participants in the public participation programs. The analysis of this data is comprised of two steps. The first step entails the actual structuring and storage of quotes related to justice perceptions about the program, thereby answering the fourth sub-question.

Keeping in mind the concepts of “overflowing” and “backflowing” as described in **Chapter 3.3**, the energy justice perceptions of local stakeholders are used to analyze interactions between policymakers and local stakeholders in the participatory processes in Mariahoeve, and how the framing of heating solutions by decision-makers affected justice perceptions. In this way, the framework of Pesch et al. (2017) provides insight into how energy justice perceptions are shaped during interactions in public participation processes in Mariahoeve.

4.5 Concluding Section

The methodology has described the embedded revelatory case study design, the scope, and why Mariahoeve has been selected as case-study, that is, because it is one of the 10 districts to be decarbonized first under the lead of the municipality. The qualitative data collection methods that have been applied to gather the data presented in the subsequent chapters. Moreover, the four analytical steps to analyze the *institutional context*, the *public participation processes*, the *energy justice perceptions* and *their role in the interactions* between local stakeholders and policymakers have been described.

Chapter 5 - Case introduction

In this chapter, the neighborhood Mariahoeve will be introduced. It will focus, in particular, on the socio-demographic and socio-technical statistics of the neighborhood, the most relevant stakeholders, an overview of the participatory process, and a summary of relevant technical studies for the heating transition that have been performed over the up to 2019. This will provide context to the heating transition and the participatory process in Mariahoeve.

5.1 Socio-economic statistics Mariahoeve

Mariahoeve is located in the north of The Hague and is part of the city region Haagse Hout (**Figure 14**). The neighborhood consists of four separate districts: Kampen, Burgen en Horsten, Landen, and Marlot (**Figure 15**).

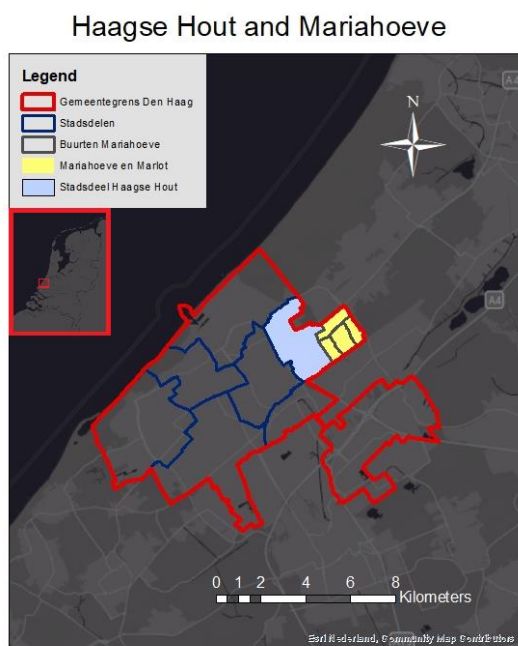


Figure 14. Location Mariahoeve in The Hague.

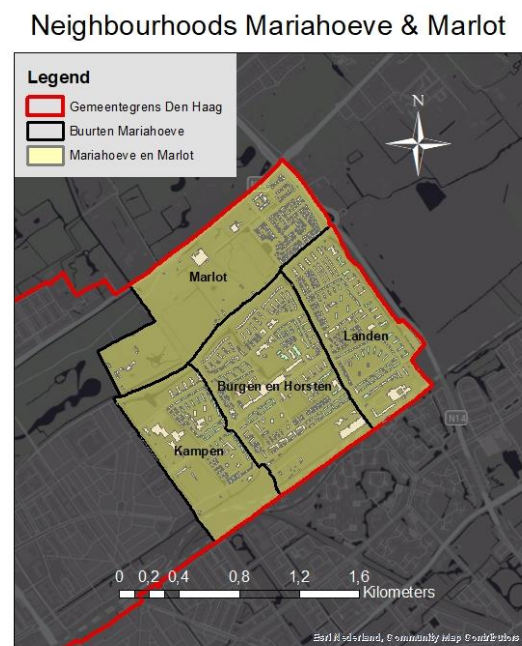


Figure 15. Quarters in Mariahoeve

The first plans for the neighborhood were made before World War 2, but these plans were never realized because of issues related to train tracks that crossed through the area. Between 1953-1957 the urban planner F. van der Sluijs made a first design of the neighborhood (see **Appendix 7**) after it became apparent that the train-tracks would be removed (RIS180841, 2011). The design of the neighborhood is inspired by Scandinavian cities like Göteborg and Stockholm. It has been designed for a large variety of building types that would be inhabited by people from different societal dimensions. In principle the area is designed to be self-sustaining with many green spaces, educational, health and sport facilities, and its own shopping center. Construction took place between 1958 and 1968. Overall, roughly 90% of buildings in Mariahoeve are multi-story buildings for both residential and non-residential purposes. Further information on the type and location of buildings can be found in **Appendix 8** (Haags Dataplatform 2020; BAG3D, 2019).

In general, the socio-demographic statistics for Mariahoeve, as presented in **Table 3**, indicate that most of the buildings are used for residential purposes. One outstanding figure is that more than 50% of the inhabitants of Mariahoeve have a migration background. The average income in Mariahoeve is

€25,700 annually (Allecijfers quoting CBS, 2019). This is lower than the national average income of €35,500 for 2019 (CPB, 2019). Another striking difference can be observed when comparing the statistics related to employment and type of residential buildings between the city districts Marlot, Landen, Kampen, and Burgen en Horsten. With an average house value that is four times as high as the other neighbourhoods, Marlot belongs to the more expensive quarters of the city. Furthermore, Marlot has close to 0% unemployment rate and a high rate of one-person households.

Age	Total	Percentage		
Population 0-19	2733	18%		
Population 20-64	8723	59%		
Population 65>	3320	22%		
Total	14776			
Cultural background				
Percentage native	6963	47%		
Percentage with migration background	7813	53%		
Households				
Total households	8463	100%		
Total households 1 person	4895	58%		
Total households multiple persons with children	1182	14%		
Total households multiple persons without children	1610	19%		
One parent households	776	9%		
Employment	Landen	Kampen	Burgen en Horsten	Marlot
Percentage population employed	78%	22%	68%	49%
Percentage population unemployed	13%	10%	12%	0%
Building characteristics	Landen	Kampen	Burgen en Horsten	Marlot
Total buildings	2919	1506	3672	343
Total residential buildings	2581	1262	3178	318
Total residential buildings (%)	88%	84%	87%	93%
Total non-residential buildings	338	244	494	25
Total non-residential buildings (%)	12%	16%	13%	7%
Type of residential buildings	Landen	Kampen	Burgen en Horsten	Marlot
Privately owned	35,11%	35,26%	39,49%	87,76%
Private rent	9,90%	19,32%	23,18%	12,24%
Social rent	54,88%	45,42%	36,38%	0,00%
Average value (€1000)	161	155	164	830

Table 3. Socio-Economic Statistics Mariahoeve (Ruimtelijke Kengetallen Den Haag, 2019)

Another point that differentiates Marlot from the rest of Mariahoeve is the low level of social housing stock (with rent). In Landen, Kampen, and Burgen and Hosten, housing associations own a significant share of the buildings. The largest housing associations in Mariahoeve are Staedion, Vestia, Haagwonen and Vidomes. **Appendix 9** provides more information on the number of properties owned by each housing association, as well as their location (Haags Dataplatform, 2017). According to Van der Veen & De Coo (2018), Marlot had a much lower percentage of minimum

income households (1%) compared to the average for Mariahoeve (20%) in 2016, and a much higher annual discretionary income (€49,500) compared to Mariahoeve (€21,800).

5.2 The participatory processes in Mariahoeve

The participatory process related to new sustainable heating infrastructure in Mariahoeve started before the start of the present study. This section will elaborate on the different public participation processes in Mariahoeve. The aim of this section is to provide a general overview of the different processes in which participation takes place in Mariahoeve, to introduce the relevant stakeholders involved in the participation process and to sketch a timeline of the participatory process and relevant events (for participation in Mariahoeve). First, the formation of the program plan energy transition will be introduced, because this document has provided the participation strategy in Mariahoeve. Subsequently, the frontrunner group, The Hague Heating working group and The Hague Energy Network (HEN) will be discussed. These are the main participation processes in which stakeholders from Mariahoeve can participate.

The Formation of the Programplan Energietransitie

The district Mariahoeve is integrated in the City of The Hague. The design process of the *program plan* (Programmaplan Energietransitie; translation of the author), where the municipality describes her energy transition plans for the whole city up until 2030, has therefore been crucial for Mariahoeve. Since September 2017, the municipality has been actively engaged with key stakeholders to formulate the program plan. The program plan is the result of intensive collaboration between larger stakeholders including energy companies, DSO's, citizen initiatives, NGO's, Housing Associations, other companies, governmental bodies and municipal bodies (see **Appendix 10** for a detailed overview).

The plan indicates which 10 districts of The Hague will be the first to be made sustainable, and suggests potential technical trajectories for each district. Of key importance is that, according to the plan, the municipality take the lead in Mariahoeve, a recommendation that is contrary to other districts where citizen initiatives or other stakeholders are in the lead (Programmaplan Energietransitie, 2018). In Mariahoeve, a high temperature (HT) district heating (DH) system was envisioned as the most suitable option (Programmaplan Energietransitie, 2018). The heating sources for this DH-system depend on the development of the "Leiding door het Midden" (LdhM), a pipeline that is envisioned to transport waste heat from the Port of Rotterdam to buildings in The Hague. This energy project has a large impact on the heating transition of Mariahoeve and will be further analyzed in **Chapter 6.5**.

A wide variety of local stakeholders have been involved in drawing up the plan, whose strategy was presented and accepted by the Municipal Council on 21 September 2018 (RIS299076, 2018). A more detailed description of the management structure established to implement the plan within the municipality will be elaborated on in **Chapter 6.4**. Although most stakeholders from The Hague energy network and Sustainable The Hague (NGO Duurzaam Den Haag) were present in the negotiations about the program plan, the frontrunner group was not.

Within the program plan, the municipality differentiates between three types of stakeholders: government, supply-chain partners and building users, as depicted in **Figure 16**. In terms of public participation, the building owners and inhabitants are an important target group. All networks include stakeholders from all three stakeholder groups, but the frontrunner group and The Hague Heating Workgroup count more stakeholders from the building owners and inhabitants. In contrast,

The Hague Energy Network is more focused on the chain partners. In all three groups, the government stakeholders at the municipal level play an important role in terms of information sharing, financing, and agenda setting, with the exception of The Hague Heating Working group which is independent regarding the latter. Another difference is that the heating working group and The Hague Energy Network are more focused on network and learning on the city level, whereas the Koplopergroep is more focused on the local implementation of the heating transition in Mariahoeve.

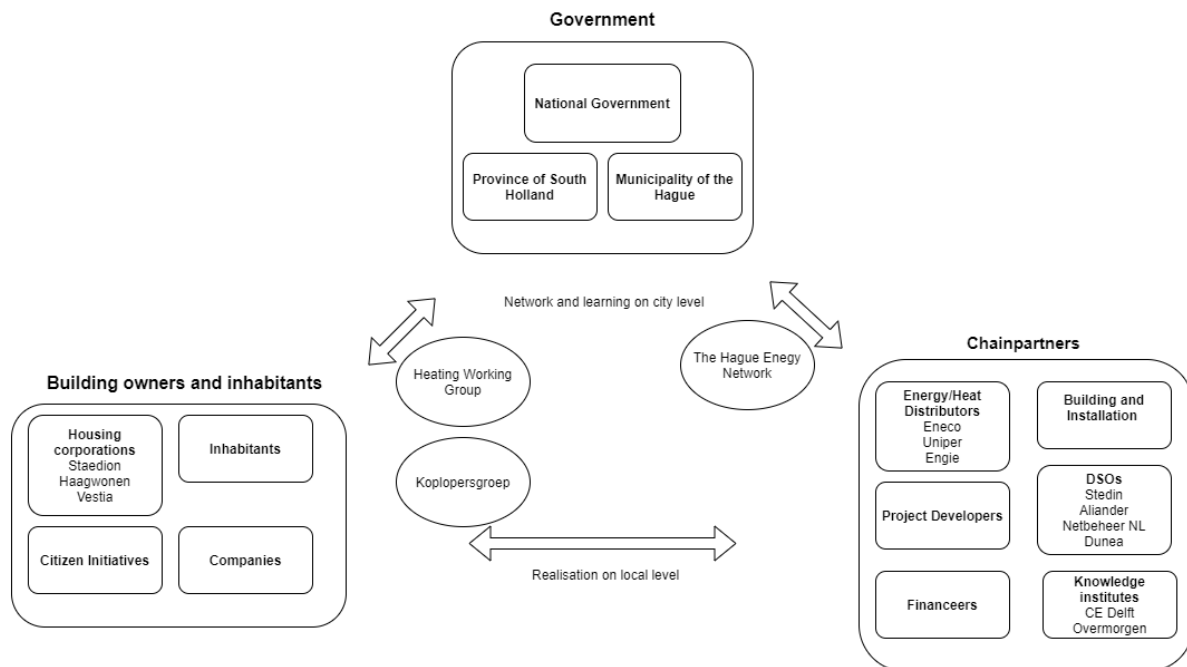


Figure 16. Key Stakeholders in the Programmaplan Energietransitie (Programmaplan, 2018)

In addition to the program plan, The Energy Agreement from The Hague (Haags Energieakkoord, 2018) formed the basis for collaboration between the municipality and local stakeholders (mostly chain partners and some building owners and inhabitants) to make 25,000-30,000 houses sustainable in 2030. This is in alignment with the ambition and the strategy of the program plan. The program plan was accepted by the municipality in early 2018 and formed the strategy upon which the municipality’s later developed *city wide energy plan* was based (Stedelijk energieplan; translation from the author), published in April 2020. It is a requirement in the context of the climate agreement (Van Tongeren, 2020c).

5.2.1 Stakeholders in Mariahoeve

The Municipality of The Hague has been working on the heating transition in The Hague and Mariahoeve since 2016 (Senior Project Leader, Personal Communication, 2019). In late 2017, the plans of the municipality for Mariahoeve became more concrete, when the internal administration of the energy transition program was determined (Van der Veen & De Coo, 2018). Already in 2018, the municipality began facilitating gatherings of frontrunner groups in the neighborhood to identify a suitable strategy (Gemeente Den Haag, 2018). Frontrunner groups include a variety of local stakeholders and are so-called ‘frontrunners’ in the heating transition, in the sense that they receive more information than other residents and have regular contact with local policymakers. In this way, they ‘run in front’ of fellow residents and other stakeholders in the context of the heating transition. Here, an elaboration on the stakeholders involved in the three relevant participatory platforms for Mariahoeve will be discussed. These three important platforms are the formation of the *The Hague*

Energy Network (HEN) (Haags Energienetwerk; translation from the author), the *The Hague Heating Working Group* (HWG) (Haagse Warmtewerkgroep; translation from the author) and the *frontrunner group* Mariahoeve (Koplopersgroep Mariahoeve; translations from the author).

Since 2016, a wide variety of stakeholders have been involved through these public participation processes. This section will discuss the key stakeholders in these processes.

Frontrunner group Mariahoeve

The frontrunner group (Koplopersgroep; translation from the author) Mariahoeve is a group of local stakeholders from Mariahoeve that meets on a regular basis to discuss developments surrounding the energy transition plans of the Municipality. The group is facilitated by the municipality in collaboration with external partners and includes a wide variety of stakeholders. This includes representatives of condominium associations (CA), schools, citizen initiatives, DSO's, knowledge institutes, companies, public service providers, and individual inhabitants. As an example, the table in **Appendix 11** gives a more detailed impression of the variety of stakeholders that were involved at the very start of the process in 2018 (Gemeente Den Haag, 2018).

Heating Working Group (HWG)

The HWG is a network created and funded by the municipality of The Hague and facilitated by the NGO Sustainable The Hague where all heating-related citizen cooperatives, initiatives and groups meet on a regular basis. Since late 2016 the group meets once every five weeks to share experience and knowledge (Duurzaam Den Haag, n.d.). During the meetings of the HWG participants share updates and information about projects in neighborhoods, experts are invited, excursions are organized and developments regarding the municipal heating policy are discussed. Since 2018 the NGO Sustainable The Hague supports citizen initiatives with the development of pilot projects and the organization of heating-dialogues with other stakeholders like DSO's (e.g. Stedin), heating companies (Eneco), housing associations and the municipality.

The twelve citizen initiatives represented in this network are: Groene Regentes, Buurtenergie Statenkwartier, Langebeesten Energiek, Vogelwijk Energiek, Warm in de Wijk/Vruchtenbuurt, Duurzame Zeehelden, Duursaam Benoordenhout, Gasvrij Scheveningen, Stichting Hernieuwbare Warmte Ypenburg, Groene Buurt Archipel, Energiecoöperatie Wateringse Veld and Duurzaam Mariahoeve (Duurzaam Den Haag, n.d.). Stakeholders from Mariahoeve are present at these meetings and therefore have access to information from other initiatives in the city.

The Hague Energy Network (HEN)

The HEN is an informal network where all types of stakeholders come together and discuss development surrounding the heating transition. The network was established in late 2017 by the municipality of The Hague and is coordinated by an independent consultant from advisory firm Schuttelaar & Partners (Coordinator HEN, Personal Communication, 2020). In the network citizen initiatives, companies, municipality representatives and others come together from all over the city. This includes DSO's, educational institutions, citizen initiatives, energy companies, other companies and representatives of various municipal departments.

5.2.2 Timeline participatory events and process

The timeline of relevant events attended in the participatory processes are presented **Figure 17**. In **Appendix 12** separate timelines of relevant for each process in particular are included.

Events prior to data collection

Start of the participatory process in Mariahoeve

Relevance for Mariahoeve	28-11-2017 Inspiration afternoon housing corporations and municipality 18-12-2017 Internal kick-off large number municipality employees; SWOT Mariahoeve 01-2018 Conversations 1-1 with municipal employees. Establishment project team and leading team 02/03-2018 Meetings with AOCs together with the AOC-desk 05/06-2018 Second round of meeting between municipality and external parties including companies and citizen initiatives to explore possible collaboration mid-2018 Sustainable The Hague supports citizen initiatives with pilot projects related to heating 28-11-2018 Municipality organises integral session Mariahoeve with TNO: Energy Tables 04-04-2019 Follow-up on the integral session 01-10-2019 Start data collection Thesis project											
Relevance for Both Mariahoeve and Institutional Context	2015 The Hague environment centre transformed into NGO Sustainable The Hague 2016 Start Heating Workinggroup by Sustainable The Hague											
Relevance for Institutional Context	Start Energy Transition Team Focus- households 2015											
Year	2015											
Source	Interview Peter / Nymne	Interview Lennart	Interview Lennart	Rebel (2018)	Rebel (2018)	Rebel (2018)	Rebel (2018)	Rebel (2018)	Rebel (2018)	Interview Lennart	Versting integrale sessie (2018)	Versting herontwikkeling (2019)

Participatory observation period

Cancelled because of Corona

Relevance for Mariahoeve	Sustainability Festival Mariahoeve 05-10-2019 Meeting Alternative Scenario for Mariahoeve 12-11-2019 Visit "Hou van je Huis" Mariahoeve 16-11-2020 ALV Wijkraad Mariahoeve 21-11-2019 Meeting Koplopergroep Mariahoeve 28-11-2020 Preparation Proposal Energy Cooperative Mariahoeve 16-01-2020 Koplopergroep side sessions (achtingerbuurt) TBA (03-2020) Event Arescoopertive with proposal municipality TBA 03-2020											
Relevance for Both Mariahoeve and Institutional Context	Heating Working Group Duurzam DH (Dhr/Huygens) 18-10-2019 Meeting Alternative Scenario for Mariahoeve 12-11-2019 Visit "Hou van je Huis" Mariahoeve 16-11-2020 ALV Wijkraad Mariahoeve 21-11-2019 Meeting Koplopergroep Mariahoeve 28-11-2020 Preparation Proposal Energy Cooperative Mariahoeve 16-01-2020 Heating Workinggroup Duurzam Den Haag (ThermobellEnergiesamen) 17-01-2020 Participation meeting Eneco neighbourhood 21-01-2020											
Relevance for Institutional Context	RES cooperative meeting 05-11-2019 The Hague Energy Network 11-11-2019 The Hague Energy Network 14-01-2020											

Start Data Collection : 01-10-2019

2020

Figure 17. Timelines of participatory observation in Mariahoeve

5.3 Technical studies performed

Since the start of the energy transition project in Mariahoeve in 2017, various technical studies and reports have been made. In 2019, the municipality produced and shared a supporting document summarizing the results from these studies and detailing the currently preferred scenario about how to provide sustainable heating and cooling in Mariahoeve in the future (Onderbouwing Voorkeursscenario, 2019). The support document for the preferred scenario (Onderbouwing Voorkeursscenario, translation from the author), hereafter *preferred scenario*, referred to nine technical studies in addition to an extra analysis of the involved engineering company IF Technology. A brief discussion of the main claims in these studies is required to understand the heating transition in Mariahoeve, and the discussions taking place in the participatory process. The references to the technical studies in the preferred scenario by the municipality will be used to structure this section about the technical studies.

Preferred scenario

The preferred scenario mentions that a key reason that Mariahoeve is one of the focus neighborhoods of the municipality is because the gas infrastructure needs to be replaced in the near future (Onderbouwing Voorkeursscenario, 2019; Haags Dataplatform 2016)(see **Appendix 13**). The three most common technological solutions to sustainably heat houses is in the form of individual solutions (e.g. heating pumps), collective solutions (e.g. collective generation and DH-system) and sustainable gasses (e.g. green/bio gas or hydrogen). The studies presented in the preferred scenario indicate that a collective DH-system is most feasible for Mariahoeve (Onderbouwing Voorkeursscenario, 2019).

Rebel Report on Mariahoeve

The central conclusions from the Rebel study (Van der Veen & De Coo, 2018) as described in the SDPS are:

- High temperature individual solutions are relatively expensive, so given the low isolation levels in Mariahoeve a collective high temperature solution could be feasible.
- The project returns of a DH-system are estimated between 5-9% depending on the amount of buildings connected.
- 40 and 70 degree collective heating system solutions are applicable to different areas in the neighborhood.
- General perceptions regarding a collective DH-system are positive. This counts for citizens, housing associations, condominium associations and companies.

MSc Thesis from Neels (2018).

The central conclusions of the MSc thesis from Neels (2018) aimed at understanding the financial and technical feasibility of sustainable heating systems at the district level for Mariahoeve are:

- Based on the analysis of the preferred options for specific building types and age, most multi-family buildings can best be heated with a collective DH-system. Single-family buildings can best be heated with individual solutions, that is to say, those that are cheaper. However, collective solutions are still more sustainable for single-family households. Furthermore, green gas is only a feasible option in terms of costs when it is locally available, which is not the case for Mariahoeve.

Analysis report from CE Delft

CE Delft has performed a backcasting study and a scenario study for the heating transition in The Hague looking into the prerequisites and potential of collective DH-systems. (CE Delft, 2017; CE Delft, 2018). Both studies confirm Mariahoeve as a potentially suitable for a collective DH-system.

Additional assessment by IF Technology

IF Technology has performed an additional analysis specifically for Mariahoeve focused on collective versus individual heating systems for single family buildings and collective versus individual heating systems for multi-family buildings. The report concludes that collective heating solutions are cheaper than individual solutions when the complete value chain is included in the analysis (changes in buildings, delivery, distribution, generation and source). This is based on other publications in which IF-Technology was a consortium partner. These studies state that:

- the pre-requisites for when DH-systems are energetically feasible in terms of energy demand and density, which are met in Mariahoeve (Hoogervorst, 2017),
- in urban areas, generally speaking, collective solutions are cheaper (Kleinlugtenbelt et al., 2018),
- comparative analyses of solutions for existing neighborhoods indicate that especially 40/70 degree DH-systems are financially feasible (Verhaegh, 2019).

The conclusion is that in urban areas, collective solutions are cheaper for single family buildings.

Moreover, an analysis is presented in which various individual and collective solutions for multi-family buildings are compared in terms of cost-efficiency and feasibility. The conclusion from IF-Technology is that green gas, hydrogen and biomass solutions are not feasible (Voorkeurscenario, 2019). This discards HR/hybrid boilers and pellet stoves as feasible technologies. When comparing soil, water and air heat pumps with collective DH-systems, the latter scores better in accordance with the IF analysis in terms of CO₂ reduction, financing, costs for end-users and public support.

Arguments supporting this claim are that systems for individual buildings with multiple apartments would require higher total investments and additional investments by building owners, compared to collective solutions, next to issues related to spatial planning and public support. Furthermore, based on stakeholder discussions performed by consultants from Rebel there is more public support for collective solutions than for individual solutions (Van der Veen & De Coo, 2018).

Other studies

In addition to the publications referred to by the SDPD, an alternative scenario has been formulated by the engineering company CMAG called “The Forgotten Scenario” (Het vergeten scenario; translation from the author). The main conclusion of the “forgotten scenario” is that Mariahoeve can source 90% of its heating demand from local sources (Otten, 2019). These are mainly the Dunea water distribution pipe, PVT panels, heat pumps and, potentially, geothermal energy (Otten, 2019). The document, commissioned by Sustainable The Hague, refers to a study published by CE Delft, CMAG and KBnG on the feasibility of hybrid low temperature (LT) DH-systems (Schilling et al. 2019). A prerequisite for the feasibility of this scenario is a LT-DH system of 40 degrees. The authors envision a role for the power plant at the Constant de Rebecqueplein to provide the 10 % additional heat baseload during peak demand in winter, in combination with existing HR boilers (Otten, 2019). LT-DH systems can result in more robustness in the future because multiple heat sources are used, and generate public support because inhabitants have greater choice regarding their heating source. However, a LT-DH system is more complex to manage and requires commitment from all

stakeholders. Furthermore, no costs for total or neighborhood specific systems have been calculated or compared to other heating systems, an approach that would require further research (Schilling et al. 2019).

Appendix 14 and **Appendix 15** provide a visual representation of potential areas for rio-thermal and geothermal energy in Mariahoeve (Dataplatform Den Haag, 2016b; Dataplatform Den Haag, 2018).

5.4 Concluding section

Mariahoeve is a district in the north of The Hague with income levels below the national average and relatively large shares of 1-person households and a large number of residents with migrant backgrounds. Differences exist between the neighborhood Marlot and the other three neighborhoods. Prices seem to be significantly higher in Marlot and average incomes are much higher. The program plan energy transition has been a relevant strategic policy document in which Mariahoeve, together with 9 other districts in The Hague, has been identified as an area that will be decarbonized first. Various stakeholders have been involved in drafting the strategy representing the private sector, real estate owners, public institutions, knowledge institutes and local stakeholders. These stakeholders also participate in various constellations in three participatory processes. The local stakeholders that can participate are The Hague Energy Network (HEN), the Heating Working Group (HWG) and the frontrunner group Mariahoeve. The municipality has performed numerous technical studies in Mariahoeve of which the key findings have been described in the *Preferred Scenario*, a document in which the municipality proposes a suitable heating solution for the district. The municipality proposed that their *preferred scenario* was a HT-DH-system because numerous studies showed that collective DH-systems result in the lowest average costs compared to alternative solutions. Two other relevant technical studies, most notably the *Forgotten Scenario*, stress the potential of hybrid LT-DH systems as a possible alternative for HT-DH systems.

Chapter 6 - Institutional Context of Mariahoeve

This chapter aims to answer the following sub-question: *How does the institutional context in The Hague affect public participation processes in relation to the heating transition in Mariahoeve?*

Today it is widely accepted that local policymakers in urban areas play an important role in efforts to mitigate and adapt to climate change like the energy transition (Meadowcroft, 2011; Broto, 2017; Tempelman & Van den Berg, 2019). According to Broto (2017), efforts like the energy transition have become a “political arena” where a wide variety of actors demonstrate innovation, scale-up action and implement ideas while competing in (inter)national arenas. More generally, politics is inseparable from socio-technical transitions like the heating transitions. Political decisions affect the macroeconomic climate and the direction of innovation, legal and regulatory support initiatives, and specific government programs (Meadowcroft, 2011). In the Dutch heating transition especially, local governments play a key role in translating the national climate targets into cohesive regional approaches, which will result in considerable political and economic burdens for these decentral public authorities (Tempelman & Van den Berg, 2019).

This implies that public participation processes are not isolated phenomena and are affected by external factors, especially the local institutional context in which they are situated. Therefore, it is essential to understand in which institutional context decisions are made within the municipality of The Hague, and more specifically to analyze how this institutional context affects the design of public participation and its influence on heating-policy formation related to new infrastructure on a local level. To understand how the institutional context affects public participation processes it is important to differentiate between various aspects of the institutional context, and how each of these aspects affects public participation.

The institutional context in this chapter refers to, “The public sector institutional context, ... the overall rules and procedures that govern government organizations and employees” (Imbaruddin, 2003, p30). To get an overview of the institutional context for the heating transition in which public participation takes place, qualitative research methods have been applied. The six elements that make up the institutional contexts according to Grindle (1997) will function as a framework to structure the information and guide the interpretation of the data. These elements are: public service delivery rules and regulations, relevant policies, budgetary support, the role of government institutions, management practices, and (in)formal power relationships. The latter falls outside of the scope of this research project, thus the institutional context aspects to be analyzed in line with Grindle (1997) are:

- **Public service delivery rules** –the functioning of the executive, council and other public bodies involved in the heating transition;
- **Relevant policies** – The relevant policies from the municipality for organizing the heating transition and participation;
- **Budgetary support** – for the heating transition and the participatory program in The Hague within the municipality;
- **Management practices** – the organization and subdivision of teams within the municipality, mandate per team and involvement of external partners in the heating transition and the public participation process;
- **Role of government institutions**– the laws, regulations, guidelines, and other policy documents related to the heating transition and public participation.

How each of these aspects of the institutional context affects public participation in the heating transition will be addressed in separate sections of this chapter. Each of these sections will focus on

specific patterns and trends that affect the public participation process and energy justice perceptions in the context of heating policy formation and development of new heating infrastructure.

First, a selection of municipal policy documents was derived from the municipal online database concerning the energy transition in The Hague. An overview of consulted documents is presented in **Appendix 6**. This list was complemented with national policy documents and additional sources. To limit the size of this chapter only the analysis is provided, but summaries of all public participation related aspects of each document can be found in **Appendix 16.1 (Public service delivery rules)**, **Appendix 16.2 (Relevant policies)**, **Appendix 16.3 (Budgetary support)**, and **Appendix 16.4 (Role of government institutions)**. The analysis is based on the documents presented in **Appendix 6** and complemented with insights from personal interviews and observations.

6.1 Public service delivery rules

Public service delivery rules affect the decision-makers that are in charge of the energy transition and decide upon the shape and form of the participation process. In the municipality, the college of Mayor and Aldermen instructs the municipal administration that has to execute participation programs in the context of the heating transition. The municipal council members of various political parties have the responsibility to check whether the college of mayor and aldermen executes the participation plans. They represent their voters, directly voice their concerns, e.g. about the heating transition, and can check if the college and municipal administration design and execute decent participation programs. An overview of public service delivery rules in municipalities is presented in **Appendix 16.1**.

6.2 Relevant policies

Relevant policies on the municipal level like the *program plan for the energy transition*, the *policy framework sustainability*, and the *city-wide energy plan* influence how the heating transition and public participation are designed. Policy documents are produced by both executive policymakers in the municipality as well as municipal council members and other relevant stakeholders in the context of the heating transition. These documents combined form the policy-framework within which participation can take place. The documents set targets, describe concrete policy programs, designate where the heating transition will take place and how public participation will be facilitated. An overview of the relevant aspects for the heating transition and public participation in *Participation Ordinance* (2012), *the Heating Initiative* (2015), *The Hague Climate Pact* (2017), *The Hague Energy Agreement* (2018), *the Coalition Agreements* (2018; 2019), *The Program Plan Energy Transition* (2018), the *Policy Framework Sustainability* (Kadernota Duurzaamheid)(2019), *the Program Letter Sustainability* (2019) and the *City-wide energy plan* (Stedelijk Energie Plan) (2020) are presented and summarized in **Appendix 16.2**.

Relevant policies for the heating transition and their influence on public participation in Mariahoeve

Since the municipality started working on the heating transition in 2015 the plans have become gradually more concrete and targets more progressive, e.g. the ambition in *the Climate Pact* (2017) to be climate neutral in 2030 instead of 2040 and in the Energy Transition Program Plan (2018) which provides clarity on the direction taken in specific districts including Mariahoeve and the other ten green energy districts. The municipality takes a diverse approach which differs greatly in different districts of the city in terms of technological solutions and the roles and responsibility given to local

stakeholders and citizen initiatives, and therefore participation. The municipality is in the lead in Mariahoeve, while in other districts citizen initiatives and the NGO Sustainable The Hague are in the lead and thus have a different approach. The districts that are prioritized as green energy districts in 2020, including Mariahoeve, were already targeted in 2015 (Wijsmuller, 2015). Since 2015 when the fundament for the energy transition team was built, plans have become more concrete, but the areas targeted by the plans have not changed significantly.

Overall, every policy document of the municipality about the heating transition analyzed in the present study mentions and recognizes the importance of public participation and involvement. The support consists of finance and guidance for citizen initiatives and other stakeholders to create plans for the heating transition or is facilitated through stakeholders like the NGO Sustainable The Hague. In networks where the municipality facilitates participation and dialogue, like the heating working group and The Hague Energy Network, knowledge is shared. Since 2015, the municipality has consistently stressed the importance of collaboration with citizen initiatives in all its policies and policy initiatives. The urgency has consistently been expressed to connect citizens and citizen initiatives with professionals in frontrunner groups (in Dutch: koplopersgroepen; translation by the author), and to professionalize them so they can engage more other citizens. Moreover, since 2018 the need to improve participation in policymaking is mentioned in light of the upcoming Environment and Planning Act (EPA) (implemented nation-wide), in addition to the invitation to citizens to propose their personal ideas and projects. Furthermore, the role of the municipality regarding participation is to “take the lead” with participation, as explicitly government in the **Coalition Agreement** of 2018. In the recently published **City-wide Energy Plan** the goal is mentioned to make the participation methods more accessible and assure the feedback of citizens will be included in the district energy plans (Van Tongeren, 2020c). The City-Wide Energy Plan indicates various channels that are available to spread information to citizens. The district offices (‘Stadsdeelkantoren’ in Dutch; translation by the author) and frontrunner groups are important for this, just like the various information desks and drop-in centers that support building owners with advice about sustainability in the affected districts named the ‘Love your Home’-desk and the ‘Love your business’-desk (“Hou van je Huis/ Hou van je Zaak-winkel” in Dutch; translation by the author).

Another important aspect is that there is already a formal procedure to run participation processes in The Hague: i.e. the **participation ordinance** (Participatieverordening, 2012), which includes its own categories of participation. However, these categories are not reflected or explicitly mentioned in most policy documents, where definitions of what participation means remain vague and usually refer to realizing the heating transition ‘together’ with citizens.

Finally, a clear trend is visible in all policy documents since 2015, e.g. in the **Heating Initiative, The Program Plan** and, the **City-Wide Energy Plan**, regarding the ten focus districts as ‘low hanging fruit’, Mariahoeve included, and the potential of the Leiding door het Midden (LdhM) as a heating source for HT-DH systems has been mentioned in most policy documents as well. About the LdhM citizen-initiatives have expressed concerns about the potential negative effects of the LdhM infrastructure project on local heating initiatives in their heating manifesto already in 2017. Policymakers have, from their side, stressed socio-economic and technical requirements for the LdhM to reduce these negative impacts but also stress the cost-effectiveness of HT-DH systems in densely urbanized areas. This suggests that the technical and infrastructure dimension of the heating transition can have an influence on and be influenced by public participation.

These relevant policies have an impact on public participation in Mariahoeve. From the analysis above it becomes clear that:

- Plans have gradually become more concrete regarding heating infrastructure development since 2015;
- The policy documents recognize the importance of participation and collaboration with citizens (initiatives) and other stakeholders and define the leading role of the municipality as initiators of participation;
- Formal participation procedures already exist in The Hague, as detailed in the participation ordinance (Participatieverordening, 2012);
- Infrastructure development plans describing which neighborhoods are to be made sustainable first have not changed significantly since 2015. Concerns about the effect of infrastructure development have remained the same as well.

6.3 Budgetary support

The available budget of a program can have an impact on its size and effectiveness. In the program budget for 2017 – 2020, the sustainability of the built environment was part of the chapter on housing (Wijsmuller, 2016). The goals of the sustainability budget for the period were to reduce carbon emissions, to make the existing DH-system sustainable and expand it, to foster a climate-resilient city, and to strengthen local citizens and entrepreneurs in the energy transition. Details about the expenditures are described in (see **Appendix 16.3**), which was approved by the municipal council on 15 December 2015 (Gemeenteraad, 2015). In 2019 the budget for the heating transition from 2019 – 2022 increased due to a significant one-time injection of funding (Gemeenteraad, 2020).

Interviews with policymakers indicate that the required budget for realizing the heating transition in The Hague probably accounts for 7-9 billion euro (Senior Project Leader, Personal Communication, 2019), whereas the currently available budget ‘only’ consists of millions. Furthermore, policymakers in The Hague indicate that they do not receive sufficient funding from the national government corresponding to the additional functions the municipality needs to fulfill in the heating transition (Senior Project Leader, Personal Communication, 2019). In comparison to the total expected costs of the transition, the budget of the municipality seems rather limited. The lack of funding requires that the available money is spent in a wise way, which is a complex challenge (Senior Project Leader, Personal Communication, 2019).

On 3 January 2020, the municipal council decided to sell the Eneco stock, which is expected to generate incidental extra revenues of €675 million (Gemeenteraad, 2020b). From this sum, 30% will be reserved for the energy transition, equal to roughly €200 million (Gemeenteraad, 2020; Coalitieakkoord, 2018).

The extra funding coming from the revenues of the sold Eneco stocks that will be received by the municipality, roughly €200 million, can be a good start for realizing the transition. However, *“most of the money will need to be invested by people themselves”* (Senior Project Leader, Personal Communication, 2019) in addition to housing associations, energy corporations, and DSO’s. To really scale up the efforts to realize the sustainable heating transition in the built environment a stronger political will from the national government is required. The lack of funding for municipalities is a national issue, as it is also reflected in the article written by the chairman of the association for Dutch municipalities Jan van Zanen who claims the contributions from the national government to municipalities need to be enlarged to fulfill their new functions (Van Zanen, 2020).

Budgetary support for the heating transition and its influence on public participation in Mariahoeve

Funding for the heating transition has increased significantly since 2016. In the first budget reservations for direct and indirect participation were explicitly government. Funding for participation is mostly mentioned in the form of subsidies for citizen initiatives to professionalize, for fostering knowledge, and by funding Sustainable The Hague. However, in the budget from 2019-2022 it is not explicitly what money will be spent on.

Due to constraints of funding, the municipality depends on other stakeholders for the realization of the heating transition. The revenues of the Eneco stocks will give the municipality some room to stimulate the heating transition in a good manner.

Budgetary support has an impact on Mariahoeve. From the analysis above it becomes clear that:

- Funding has increased but remains relatively small considering the scope of the investments required. Additionally, it remains unclear what the budget will exactly be used for;
- Property owners are held responsible for a large share of the required investments in the heating transition;
- Due to scarcity, available funding needs to be spent wisely;
- Eneco stock revenues will enlarge the capacity of the municipality to invest in the heating transition, and potentially public participation;

6.4 Management practices

The management practices within the municipality of The Hague influence the heating transition and how the participation process is designed and managed. **Figure 18** provides an overview of the management structure for the heating transition in The Hague. This organogram is based on research from consultancy agent Rebel (Van der Veen & de Coo, 2018), observations, and personal interviews. The city-wide aspect above the line applies to all green energy districts in The Hague, while the lower part is specifically applicable for Mariahoeve. This section will focus on the role of the alderman in the governance, the municipal administration, and the management structure in Mariahoeve.

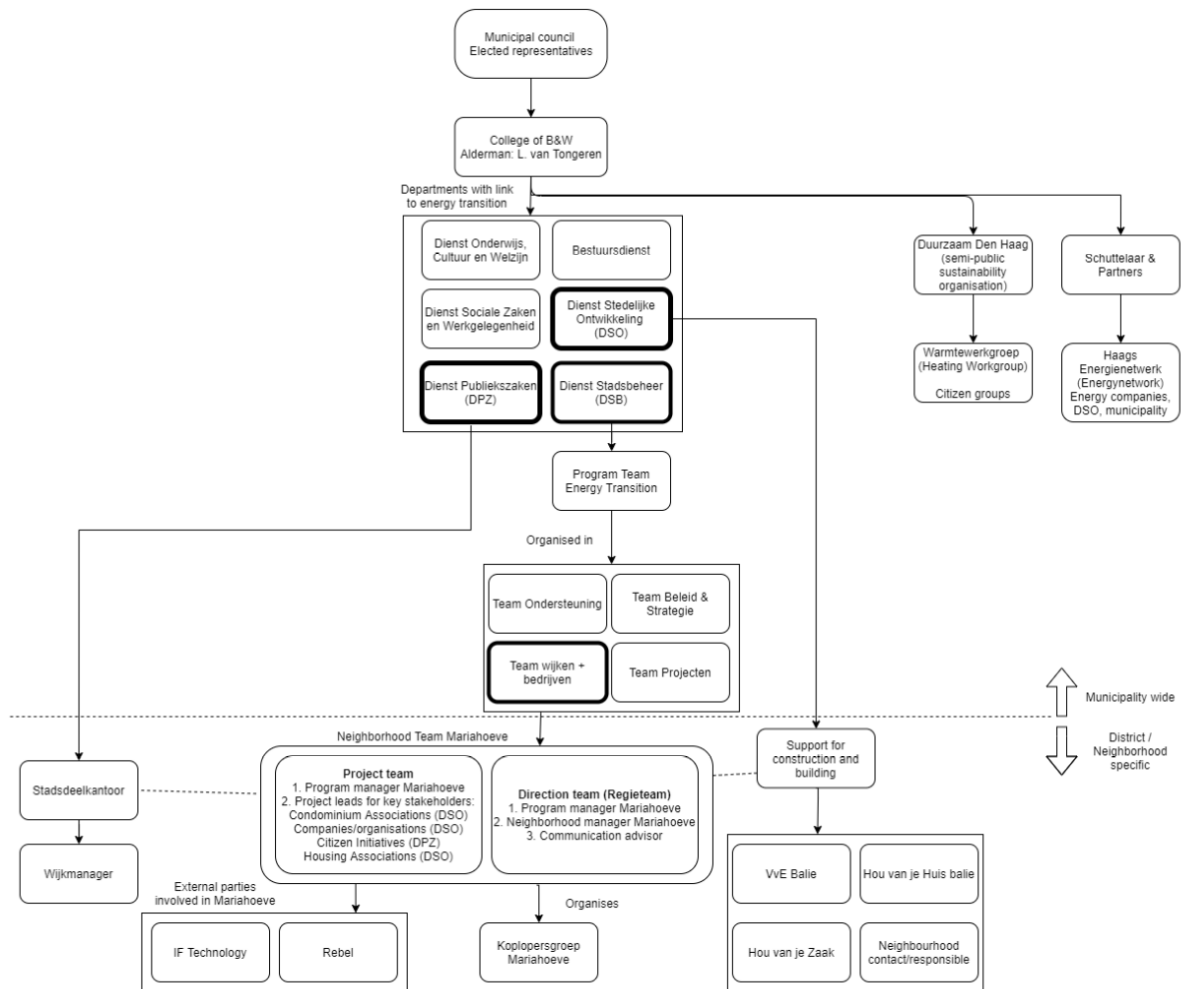


Figure 18. Management and organization structure municipality of The Hague

Alderman and political leadership

In The Hague, the Alderman is in charge of the energy transition, and thus the final responsibility for the results of the program team energy transition (Senior Project Leader, Personal Communication, 2019; Program Manager Mariahoeve, Personal Communication, 2020; Coordinator HEN, Personal Communication, 2020). What complicates the job of the alderman Liesbeth van Tongeren is that she is leading a program team, an interdepartmental task force, instead of an existing department (Coordinator HEN, Personal Communication, 2020). This program team is not part of the already existing departments, but rather an addition to it, and the job of the alderman is to get funding and FTE's within the municipality that are necessary for the job. This applies to almost all municipalities in the Netherlands (Coordinator HEN, Personal Communication, 2020). Because sustainability and the heating transition requires integral collaboration and relates to domains that fall under the supervision of other existing departments, like housing, economic development, and public affairs, there are internal discussions within the municipality about what the mandate of the program-team is, and what remains under the supervision of the existing departments. An additional issue is that the Alderman is usually there only for a short period, typically the formal four years, while the transition is a long term project (Coordinator HEN, Personal Communication, 2020).

Policymakers in The Hague also indicate the importance for the Alderman to have successes. The risk with subjects like the energy transition is that an alderman works for four years and has nothing to

show for it. *“It is an enormous political risk”* (Senior Project Leader, Personal Communication, 2020). This is because the Alderman energy transition has to deal with complexity in collaboration with departments in the municipality, with all the real-estate owners in the municipality and is bound to a certain extent by institutional players outside of the municipality like the National Government, Province and others.

Furthermore, the alderman needs time to get used to the function, know all the stakeholders, and the content of the relevant records (Coordinator HEN, Personal Communication, 2020). At the point where the alderman is in a position to lead it is often already halfway their mandated period before new elections take place (Coordinator HEN, Personal Communication, 2020). This limits their capacity to achieve results and can incentivize a focus on short term successes because *“These political leaders cannot just prepare the ground for their predecessors to reap the benefits”* (Coordinator HEN, Personal Communication, 2020). Nevertheless, that is what is required from the alderman right now because the heating transition is a long term process.

Administration and program implementation

The alderman is in charge of the municipal administration that is responsible for the implementation of the heating transition and participation programs. She leads the program team energy transition, in which various departments of the municipality are involved. Although the program team works interdisciplinary and in collaboration with other municipal departments, it is part of the department of city governance (Dienst Stadsbeheer). The director of this department is Municipal Secretary Mrs. a.i. Ilma Merx (Program Manager Mariahoeve, Personal Communication, 2020). The Energy Transition program team is being led by a program director, Mr. Martin Andriessen, who is finally responsible for the four sub-teams: support, districts, projects, and strategy and policy. Team support (Team ondersteuning) is responsible for financial aspects, administrative aspects, logistics, and communication (PR). A lot of other communication takes place on the neighborhood level by the mouth of the program managers on the district level, which are organized in the “team districts”. This includes both normal districts, but also business parks. The team “projects” focusses on concrete projects like for example finding roofs suitable for PV-panels, insulation projects, gas-free cooking projects. Finally, there is the “strategy and policy” team that works on large projects like how to deal with the LdhM or how to spend the revenues from the sale of Eneco stocks (Senior Project Leader, Personal Communication, 2019).

The program team energy transition has grown from four to five people between 2015 – 2017 including some external professionals to 50 people in late 2019 (Senior Project Leader, 2019; Program Manager Mariahoeve, Personal Communication, 2020). This is a considerable achievement.

The neighborhood manager of Mariahoeve, who is part of the program team districts in the energy transition team, is in charge of a specific district team, “district team Mariahoeve”. The neighborhood team Mariahoeve is supervised by the program manager Mariahoeve and consists of two structures: the project team and the direction team (Van der Veen & de Coö, 2018). The project team is focused on concrete projects with the four central stakeholder groups in Mariahoeve: the condominium associations, the housing associations, companies, and other organizations and citizen initiatives. Within this team, municipal employees with experience and good relationships with the stakeholder group are working on projects. They are employed by different municipal departments, e.g. the department of urban development (Stedelijke ontwikkeling in Dutch; translation by the author) that already work with housing associations deal with the housing associations, and the department of citizen affairs (Publiekszaken), and the district office (Stadsdeelkantoor) that already have good contact with citizen initiatives communicate with the citizen initiatives. The project

leaders of these project teams, which are referred to as middle-management, meet together with the program manager Mariahoeve in the project team as part of the neighborhood team Mariahoeve (Program Manager Mariahoeve, Personal Communication, 2020). This allows the program manager Mariahoeve to work efficiently and flexibly with all stakeholders involved. Besides the project team, there is the direction team, which includes the program manager Mariahoeve, the neighborhood manager Mariahoeve and a communication advisor. The direction team is small and focuses on the direction of the process.

The neighborhood team Mariahoeve collaborates with the district office and advisory desks for the four central stakeholder desks. The district office is mostly involved with participation while the home-owner desk (Hou van je Huis), entrepreneurial desk (Hou van je zaak), condominium association desk (VvE Balie) provide tailor-made information about technological, financial, and other questions the stakeholders might have.

On a city-wide level, the NGO sustainable The Hague supports citizen initiatives with building human capital by creating a network for citizen initiatives to share best practice and knowledge (Coordinator HWG, Personal communication, 2020). The consultant Schuttelaar & Partners is the independent coordinator of The Hague Energy Network (Coordinator HEN, Personal Communication, 2020).

Management structures in the heating transition and its influence on public participation in Mariahoeve

As a political-administrative organization, the municipality has a hierarchical structure, where the municipal council has final decision-making power and an alderman is eventually responsible for leading the efforts in the heating transition and accountable to the public representation in the municipal council. The alderman is a political leader that needs short term accomplishments to be re-elected and simultaneously needs to represent and protect the interests of the energy transition program team in the municipal organization. However, it requires time for the alderman to take the lead due to the often temporary mandates of these leaders and the absence of assured continuity. Consequentially, the alderman for the energy transition in The Hague has to simultaneously get used to the complex governance structure and balance short-term political incentives with the need for long-term and later pay-off decisions required for the energy transition.

Additionally, the program team for the energy transition is new and has to define its position, role, and responsibilities amidst the existing departments in the municipality. In 2015 the municipality had an internal challenge of bringing the right knowledge and skills together in the program team. The new and fast-growing team needed to define roles and responsibilities, which sometimes were not immediately clear. This makes governance of the heating transition on a local level very complex.

Furthermore, the district program managers that are responsible for organizing the participation on the ground cannot act independently but are bound by the hierarchical structure of the municipality. First of all, due to the integral challenge that the heating transition and participation pose, the collaboration of all municipal departments is essential (Senior Project Leader, Personal Communication, 2019, Program Manager Mariahoeve, Personal Communication, 2020). Depending on which decision needs to be taken, one to five layers of the management team and decision-makers need to be involved: from the neighborhood program manager to: 1) management team of the city-wide program energy transition; 2) management teams of the involved municipal departments; 3) the management team of the involved municipal departments with the aldermen; 4) the rest of the college of mayor and aldermen; and 5) the municipal council (Program Manager Mariahoeve, Personal Communication, 2020).

Within this structure, program managers have to consider what information to share, when to share it, who needs to be informed, who has the mandate to approve plans, and to what extent information must be shared. This can be challenging (Program Manager Mariahoeve, Personal Communication, 2020). The district program manager directs the middle management responsible for implementing the neighborhood activities, that are mostly focused on practical implementation, but who are further away from taking policy decisions. To complicate matters, it is sometimes not clear who is mandated to take decisions. This limited the freedom of district program managers to innovate with public participation.

It is clear that the municipal council and college of mayor and aldermen have the most decision-making power in Mariahoeve, and thus influence how the participation process is shaped. Furthermore, managing the heating transition is complex due to the structure of the municipality. In other neighborhoods, the structure can even be different because there the process is led by citizen initiatives financially and technically supported by the municipality through a specific-contact person, or because the NGO Sustainable The Hague is in the lead (Coordinator HWG, Personal Communication, 2020).

Management practices have an impact on public participation in Mariahoeve. From the analysis above it becomes clear that:

- Short term political leadership on a long term transition results in opposite incentives and requirements for the alderman;
- Temporary/new program transition team in combination with an overlap of roles and responsibilities makes governance of the heating transition complex;
- The hierarchical structure on the municipality limits the freedom to innovate with public participation on the district level.

6.5 Role of government institutions

Various government institutions like the national government, the province, but also other municipalities, have an impact on how the municipality of The Hague functions. Policy initiatives on the provincial and national levels influence how the municipality of The Hague approaches the heating transition and participation. This section is divided into two parts, where the first analyzes available law trajectories, policy initiatives, and guidelines available on a national level that affect the heating transition in The Hague. A summary of the relevant aspects from the national Climate Agreement, the Heating Law 2.0 (Warmtewet 2.0), the Planning and Environment Act (Omgevingswet), the Regional Energy Strategy (RES), and the program Gas-Free Neighborhoods (Programma Aardgasvrije Wijken - PAW) can be found in **Appendix 16.4**. In the second part of this section, the influence of other government institutions on the decision-making process surrounding the LdhM is analyzed, in addition to how this type of large infrastructure development affects the potential for public participation on a municipal and district level.

6.5.1 Influence of national policies on the heating transition and public participation in Mariahoeve

Within the framework of the national Climate Agreement a differentiation between policy and project participation is made, and responsibilities for municipalities are defined. Policy participation relates to influence on the decision-making process before energy projects become concrete, whereas project participation relates to concrete cases. In some documents specific goals or

feedback mechanisms are prescribed. **Figure 19** indicates the options for policy participation through the EPA, the RES and the neighborhood approach and the tools available for policymakers, as defined in the climate agreement. **Figure 20** depicts project participation as detailed on the online information portal from the climate agreement.

Figure 19.
Policy Participation.

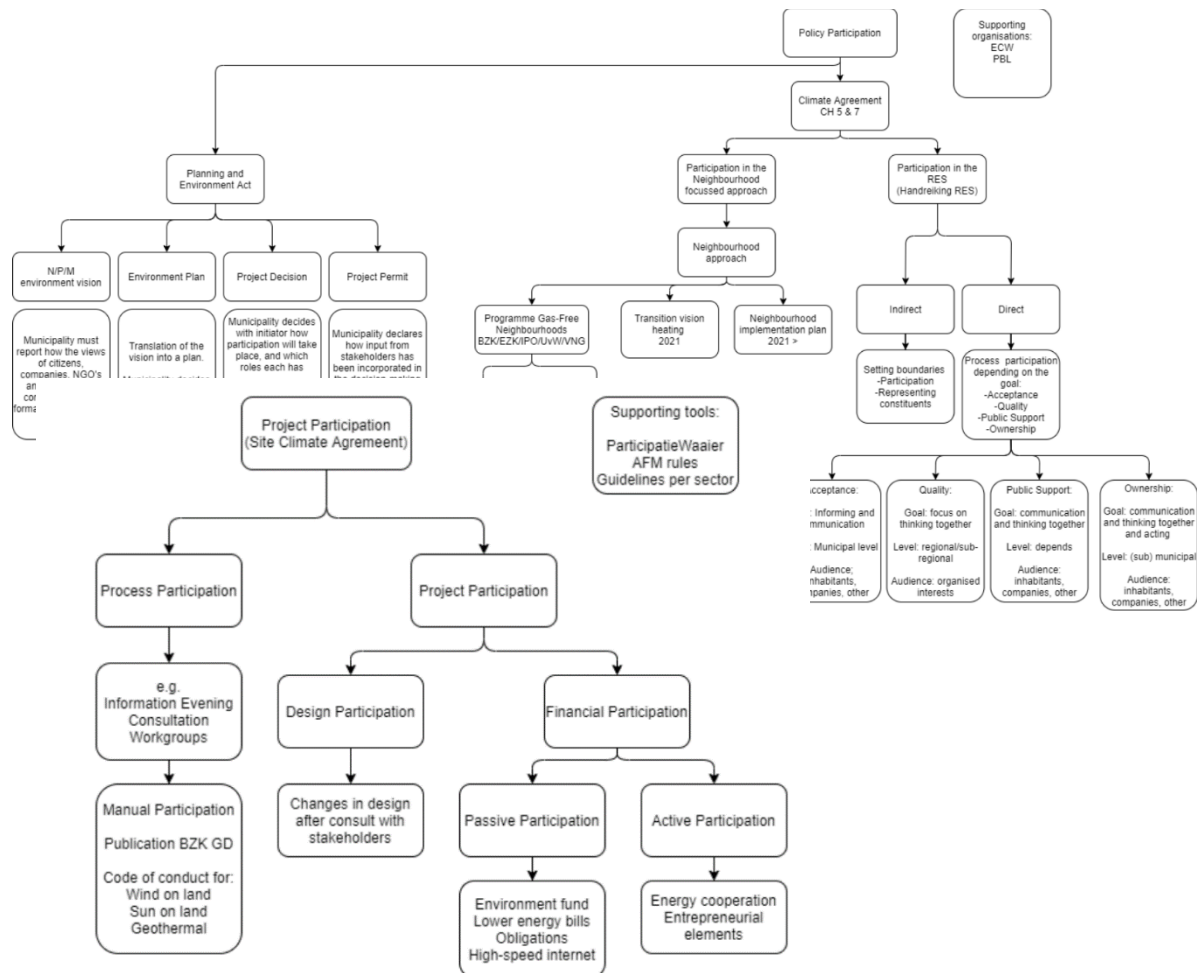


Figure 20. Project Participation

These national policies have an impact on how the municipality functions and participatory processes are designed. This can be financial, as indicated in section 6.3, but also regulatory and procedurally.

In the first place, it is due to the climate agreement that municipalities are responsible for the local heating transition and responsible for drafting the transition vision heating and engagement with the RES. Municipalities and the province will have the authority to set rules regarding the construction, renovation, or expansion of DH-systems. For DH-systems that provide services to 500 customers or more the college of Mayor and Aldermen can decide who implements these projects (Tempelman & Van den Berg, 2018). Simultaneously, the law trajectories for the revised Heating Law 2.0 and the Environment and Planning Act are underway, but these laws are not yet applicable. Especially in the context of the Heating Law this results in a situation in which the municipality in a way ‘falls between two stools’. On the one hand, it has to start drafting plans and involve various kinds of stakeholders in participatory processes to draft these plans, on the other hand, it does not have the authority to enforce these plans yet. In light of the uncertainty and the fact that laws have to be re-written, it can be difficult for municipalities to answer certain questions or provide guarantees about subjects they

do not (yet) have the authority over. The coordinator of The Hague Energy Network explained in an interview that, *“If you don’t have a mandate, a judicial framework within which you can operate, it is impossible to take steps”* (Coordinator HEN, Personal Communication, 2020). The project manager for Mariahoeve also confirms that what happens on the governmental level is important, also regarding what we have to write down in the neighborhood energy plan, *“On the one hand you are walking ahead when taking action in a district while at the same time laws are being written. This allows you to provide input to those writing the law about what you experience. But sometimes you really need the regulatory framework”* (Program Manager Mariahoeve, Personal Communication, 2020). The municipality has to consider complex judicial and technical questions regarding technology, ownership of infrastructure, how the underground is structured, financial and physical risks, and who has responsibility in case things go wrong. At the same time, many judicial details are still unclear. This also includes social questions. For example who to subsidize and how much support to provide (Coordinator HEN, Personal Communication, 2020). Besides the complexity of taking the right decision, the lack of regulatory framework leaves the municipality with empty hands in case people object to its policies. *“The municipality depends on the Heating Law 2.0. If you want to get a neighborhood of gas, but right now three of four people do not want this, you cannot remove the gas infrastructure. There is no regulatory ground to remove the gas infrastructure. They [i.e., the municipality] cannot oblige people to invest in making their homes sustainable.”* (Coordinator HEN, Personal Communication, 2020).

Often when the national government asks if there are government institutions that want to get specific authority in the context of decentralization, there is competition between the association of Dutch municipalities (VNG) and the interprovincial dialogue (IPO) about who gets the authority to perform public functions. That is beneficial for the national government because they can give the authority to the party that is prepared to do it for the most beneficial conditions from the position of the national government (Senior Project Leader, Personal Communication, 2020). This does not mean that it is easy to implement it properly, however, especially because in addition to issues related to the regulatory framework, financing issues exist. Discussions between municipalities, the province and the national government are complex because if the national government spends a euro in The Hague, other cities may start asking for funding as well. The same issue applies to funding from the Province (Senior Project Leader, Personal Communication, 2020).

Another relevant aspect of the influence of government institutions is the broad variety of guidelines, tools, typologies, and plans that are available for civil servants at the municipality to use, e.g. in the RES, the PAW, and the guidelines from the climate agreement, which are not uniform and apply to different processes in which local stakeholders (will) have the opportunity to participate. The Environment and Planning Act will be a uniform framework for public participation, but since this law trajectory is ongoing and is not applicable yet it is up to municipal policymakers to choose their own approach. In the interviews for the present study, it becomes clear that the municipality struggles with designing the most suitable participation process and is trying various strategies (Senior Project Leader, Personal Communication, 2019; Program Manager Mariahoeve, Personal Communication 2020). In light of the amount of information that is available, the time pressure to achieve the envisioned targets, and the technical, regulatory, and financial complexity, it is imaginable that this is challenging. The project manager at NGO Sustainable The Hague explained that besides basic requirements in The Hague, mostly related to early communication and giving clear feedback, there are some formal requirements in the Environment and Planning Act that will apply after 2021 which are still relatively open. The municipal council will thus also in the future have to fill in the details itself (Coordinator HWG, Personal Communication, 2020).

The lack of clarity for municipal policymakers regarding infrastructure and making the built environment sustainable stand in stark contrast to the clarity that exists for installing new generation

capacity. Uniform guidelines on how to organize project participation for power generation, e.g. for sun, wind, or geothermal energy, do not exist for the development of heating infrastructure, like DH-systems. It remains unclear if a similar approach can be applied to heating infrastructure.

Finally, a similar issue arises between the municipality and other government institutions as within the municipality: unclarity about responsibilities and roles in the context of the transition. Instead of overlap and blurriness of responsibilities between municipal departments, considerable unclarity exists regarding what responsibilities belong to the municipality, the province, and the national government in the heating transition. Municipal plans have to be aligned with regional plans in the RES and accordance to national laws like the Heating Law 2.0 and the Environment and Planning Act. How exactly this will work is yet to be seen, also about public participation. *“As long as the heating law 2.0 is not finished it is very difficult to say to what extent and how citizens can participate in the heating transition”* (Coordinator HEN, Personal Communication, 2020). This can also lead to conflicts of interest, as will be described in the following section on the decision-making within the municipality and the potential for public participation.

The Climate Agreement, Heating Law 2.0, and the revised Environment and Planning Act do have an influence on public participation in Mariahoeve. From the analysis above it becomes clear that:

- Municipalities will get increased responsibility compared to the status quo before the heating transition from the national government, but insufficient (financial) support to properly implement them;
- A discrepancy exists between the national laws that *will* be in place and the laws that *are* currently in place;
- The role of citizens and public participation in relation to the development of heating *infrastructure* remains vague, as opposed to heating and other energy *sources* for which clear guidelines exist;
- There are multiple guidelines for and definitions of participation available to support the design and implementation of participation programs on the municipal level, instead of a uniform framework.

6.5.2 The influence of government institutions on the LdhM decision-making process

On 11 December 2019, the College of Mayor and Aldermen approved the plans for the LdhM (College van Burgermeester en Wethouders, 2019). The LdhM is a 23 km long pipeline from the Port of Rotterdam to The Hague. For a view of the tracé of the route of the pipeline see **Appendix 16.5**. The pipeline is an important heating source in the transition vision of The Hague because from 2023 onwards the LdhM will provide up to 15% of the heating demand annually (College van Burgermeester en Wethouders, 2019). Mariahoeve is one of the neighborhoods that will most probably receive part of its heat from this pipeline (Van Tongeren, 2020c). Furthermore, the pipeline has a regional character, will be included in the Heating-Law 2.0, received investment from the national government, and will be governed by the government-owned enterprise GasUnie. It embodies the interplay of various government institutions on the heating transition. On 4 February 2020 alderman Van Tongeren provided the municipal commission for the environment an overview of the decision-making process surrounding the LdhM (Van Tongeren, 2020).

In **Appendix 16.5** a summary of the decision-making process, the technical questions raised by the municipal council related to public participation are presented. Furthermore, the summary covers concerns raised within the meeting for the municipal commission for the environment in February. These relate to the impact of the LdhM on the business-cases of local

heating companies and public participation in the heating transition. The slightly controversial decision-making process surrounding the LdhM shows how government institutions like the national government with its funding for the LdhM and the Province of South Holland with adopting the permit procedure have an influence on the municipality of The Hague and public participation of local stakeholders like citizen initiatives, NGO's and corporations. Furthermore, it shows the function of public participation platforms like the heating working group in informing the municipal council about citizens' concerns and The Hague energy network as a platform in which the municipality strives to find solutions in the heating transition with local stakeholders.

The LdhM has an impact on the heating transition of The Hague. The fact that the Province of South Holland continued with the coordination of the permit procedure for the LdhM, without waiting on democratic approval of the municipality of The Hague (Van Tongeren, 2020), has an impact on how the overall procedure can be interpreted by local stakeholders. Besides the effect this has on the democratic process in the municipal council, the impact of a new base-load heat source in the form of the LdhM also affects chain partners like energy companies and citizen initiatives in the heating transition in The Hague. The manager of the energy network also confirms that the Province of South Holland and Gasunie have a direct impact on the operations of companies Uniper, Eneco, and Stedin (Coordinator HEN, Personal Communication, 2020).

The presentation of Oudshoorn and Uniper claims that business-cases of local heating providers will be affected depending on how the pipeline will be operated. In the worst-case scenario, they argue, the LdhM will limit the development of local heating sources. In response to similar technical questions, the municipality states that it has set pre-requisites for the pipeline in which it stresses local heating sources will have precedence, that independent authorities will guarantee access to the LdhM, that independent authorities will assure affordability and that the municipality keeps the authority to set requirements for heating parcels (Van Tongeren 2020b). The mandate to enforce such requirements, however, is made based on the heating law 2.0 which is not yet finished or applicable. Because the exact contents of the law are not clear yet, the municipality can only refer to the expectations of experts regarding the future contents of the law, in addition to formal correspondence between the minister of economic affairs and the environment and the parliament.

Also for citizen initiatives and public participation it affects that in the background national interests play a role in the context of the LdhM. If decisions are taken on a national level this might limit the space for local stakeholders to influence the decisionmaking or share their opinion. Furthermore, the new laws can also have consequences for the municipality in the context of future public participation processes. The manager of the heating working group of Sustainable The Hague explains that based on the expectations of judicial experts regarding the Environment and Planning Act the municipality will be responsible for the balancing of interests regarding projects in the heating transition. It is thus imaginable that plans developed by a citizen initiative in the lead in a specific district will be set aside by the municipality. The municipality will be responsible to guarantee that the prerequisites and correct procedures of the decision-making process are met. If this is done well, the decisions of the municipality will last, but if there are inconsistencies stakeholders like citizens and companies can go to court (Coordinator HWG, Personal Communication, 2020). This might affect the future selection of HT or LT heating sources and DH-systems.

Furthermore, there seems to be tension between the choice for LT-DH systems and HT-DH systems, where the former seems to result in lower emissions, more freedom of choice, and organic growth, the latter is claimed to assure supply adequacy and affordability. What is clear is that government institutions play an influential role in the heating transition in The Hague and that they can significantly influence public participation processes. Moreover, it seems that the choice for a type of

infrastructure can affect public participation and that many technical, financial, judicial, and social questions from citizen initiatives and stakeholders remain unanswered. The decision-making surrounding the LdhM thus affects the participatory directly and indirectly because:

- The influence of the national government and the province of South Holland on the heating transition in The Hague is significant because of the funding for the LdhM by the national government and adoption of the permit procedure by the Province of South Holland;
- Decision-making in The Hague is based on regulations that will be implemented in the future, which limits the capacity of the municipality to provide clarity to stakeholders in the present;
- Selection of infrastructure development, like the LdhM, might affect local heating business-cases, and thereby indirectly the potential for (amongst others forms of financial) public participation;
- The municipality has set requirements for the LdhM to prioritize local heating sources in response to local concerns;
- In The Hague diverging views and interests exists amongst stakeholders regarding the impact of the LdhM and the preference for LT and HT-DH systems;
- For citizens and other stakeholders, some technical and social questions remain unanswered by the municipality.

6.6 Concluding section

This chapter has aimed answer the following sub-question: *How does the institutional context in The Hague affect public participation and energy justice perceptions in relation to the heating transition in Mariahoeve?*. This chapter has described how aspects like the relevant policies, the budget, the management structure and organization and government institutions affect the heating transition in Mariahoeve. Relevant policy documents have mentioned Mariahoeve since the heating initiative in 2015 as a potential district suitable to lead the heating transition. Furthermore, in the Program Plan of the energy transition in Mariahoeve describes the role of the municipality, which states that the municipality is in the lead. The budget available for the heating transition has grown over the years, but remains relatively small compared to the budget required to complete the transition. Insufficient funding from the national government has an influence on this. The sales of the Eneco stock might generate additional funding that would aid the municipality in renovating the building stock. The *management practices* of the program team energy transition in The Hague are complex. The fact that the program team is an interdepartmental taskforce next to existing departments can result in overlapping mandates and responsibilities. Additionally, the alderman has conflicting incentives due to the relatively short political mandate and need for short term success which stands in contrast to the necessity for long term investments and processes part of the heating transition. The assignments provided by the alderman to the program managers, like in Mariahoeve, determine the degree of flexibility these managers have in designing and implementing participation processes. In the case of Mariahoeve, the political administrative nature of the municipality limits the room for adaptation and innovative participation practices. The role of government institutions proves very important, especially in light of the Environmental Planning Act and the Heating Law 2.0. The lack of clarity concerning the legal development affects the capacity of municipal policymakers to provide clarity, resulting in situations where local policymakers fall between two stools. Furthermore, the financial role of the National Government as financier of the municipality and investor in the LdhM directly impacts the heating transition in Mariahoeve. Similarly, the Province of South Holland has directly affected the heating transition in The Hague and Mariahoeve due to its decision to start the permit procedure for the LdhM without formal consent of the municipal council in The Hague.

Chapter 7 - Public Participation in Mariahoeve

In this chapter the participatory processes in which stakeholders from Mariahoeve can participate will be analyzed in order to answer sub-question three: *In what sort of public participation processes can stakeholders of Mariahoeve partake and how is it organized?* Three main participation processes run parallel to each other in which stakeholders from Mariahoeve can participate: The Hague Energy Network, the heating working group lead by Sustainable The Hague, and the front-runner group in Mariahoeve. The analysis for each of these three processes will be based on the categories of public participation which have been developed in **Chapter 3**, and describes:

- The *program administration*, detailing the plan and resources of the initiator;
- The *purpose*, the aim that is to be achieved with the participation program;
- The *stance* of the initiating organization towards the participants;
- The *methods* applied to realize the purpose of the process;
- The *information* shared during the implementation of the methods and;
- The *phase*, ranging from initiation to continuation;

After the description of the participatory processes, an overview table will present the elements of the codebook that apply to the participation process.

7.1 The Hague Energy Network

The Hague Energy Network (HEN) is a network facilitated by an independent coordinator that discusses developments in the heating transition in The Hague. Attendants of the meetings include citizen initiatives, research institutes, energy companies, DSOs, representatives from the municipality, and others.

Program administration:

The HEN has elements of but subcategories of program administration, a “written plan” and dedicated “staffing”. A written plan in a *comprehensive document* has been present in the form of The Hague Energy Agreement. In The Hague Energy Agreement, which was signed in 2018, clear targets to create sustainable heating for 100,000 buildings in 2030. It has been signed by a variety of stakeholders who all participate in HEN (Observation HEN, 2019; 2020). The document describes how the signatories will unite in an open network that will facilitate the realization of the renovation targets. This is achieved by organizing theme-related events aimed at sharing knowledge and solutions regarding regulations, financial arrangements, and innovation. Furthermore, the document describes the role of a neutral coordinating partner that supports the management of the network, besides administrative details like membership fees and responsibilities for members (Haags Energieakkoord, 2018). However, the current shape of the network differs from how it has been described in the Energy Agreement.

“The intention was, and that is what it was initially designed for, that it would be a closed network where stakeholders would sign a contract and that there would be responsibilities attached to membership. When we started this appeared not to be the most suitable format, and finally, no covenant has been signed” (Coordinator HEN, Personal Communication, 2020).

The comprehensive plan has thus not yet resulted in the initially formulated form. The HEN as a participation platform is funded by the municipality of The Hague, which also signed the Energy Agreement. The document is thus *adopted by a government body*.

In terms of the staffing, the network is coordinated by an *external consultant*. “I am hired by the municipality because they want an independent coordinator who can connect to all the stakeholders within the network” (Coordinator HEN, Personal Communication, 2020). Next to this project, the coordinator works as an advisor within the energy sector. In the context of the design of the gatherings, the coordinator has regular contact with civil servants within the municipality to align the content and achieve optimal results in relation to the purpose.

Purpose:

The two main two purposes of the HEN are to *build institutional capacity*, which is part of the sub-category of “combined perspectives”, and to *find preferences*, which is part of the “government perspective” subcategory. Although there is a reference to *advancing fairness and justice*, by assuring heat supply and affordable pricing for everyone, this is only mentioned once in comparison to more than three for both other purposes.

The purpose that is most referred to is *building institutional capacity* to accelerate and realize the energy transition in The Hague. The coordinator explains that:

“The network was once established with the idea that if we all contribute our part, if we collaborate, then we can really accelerate the transition” (Coordinator HEN, Personal Communication, 2020).

The focus on collaboration and a shared goal indicate that the network has a function that benefits the participants as well. Therefore, it is considered part of building institutional capacity which belongs to the sub-category of “combined perspective”. Another indication that the purpose is building institutional capacity is that the aim has been to create a formal collaboration platform between the stakeholders represented in the network.

“They have not signed a contract, they do not pay contribution. That has always been the intention and still is the intention. But that is something you do with a working group in which you really set a spot on the horizon. That is where we want to go. And that is complicated because this is so complex” (Coordinator HEN, Personal Communication, 2020).

And even though the network in its current form remains open, it seems that the growth of institutional capacity is evolving organically.

“We see that within the network as a whole, smaller groups are established that speak each other’s language and play chess on the same board and that they form their own working groups” (Coordinator HEN, 2020).

The second purpose that stands out is to *find preferences*, which is a purpose that is part of the sub-category of “government perspective”. The coordinator explained that there is considerable freedom to determine the content of the program, but that discussions with staff members of the municipality guide the selection of subjects to be discussed with the stakeholders in the network.

“... and my role is to give everyone the chance to share their perspective in the network” (Coordinator HEN, Personal Communication, 2020).

As an independent consultant, the coordinator can create an environment in which stakeholders feel free to share their views. Finding these preferences of stakeholders is useful from a government perspective related to specific dilemmas policymakers face. The coordinator therefore discusses with policymakers to find out:

“Which steps and what subjects are important for you? What are the cross-roads that you come across in this phase? Sometimes you reach a point where you think, shall I go left or right? Those questions we present to the network” (Coordinator HEN, Personal Communication, 2020).

Stance:

The stance of the government towards the participation program is to *information* and *consultation*. Whereas the municipality is actively trying different forms and stances towards participation, “*For the network, this is consulting and informing, it has a verifying character*” (Coordinator HEN, Personal Communication, 2020). The stances of *information* and *consultation* are part of the sub-category “participation”, and although participants can have some form of influence on the process, this is not considered as “substantial participation”.

Methods:

The methods applied in the HEN are *information sharing* and *public hearings*. Public hearings are a form of participation designed by an organization where feedback can be given but citizens/stakeholders have no decision-making power related to the outcome of the process (Rowe & Frewer, 2000). The two methods applied in HEN belong to the sub-categories of “informing” and “consulting”. This is in line with the previously mentioned *purpose* of HEN to build legitimacy and its consulting *stance*. The consulting methods are also referred to by the coordinator of the network, who indicated that the network is mostly a knowledge-sharing platform:

“*Currently the network is a type of knowledge-sharing network, which helps the municipality to evaluate the plans they develop*” (Coordinator HEN, Personal Communication, 2020).

This function of the network is also mentioned by the municipality in their written answers to the technical questions from municipal council members regarding the LdhM. The alderman writes, for example, that the municipality discusses with partners in the HEN how guarantees regarding the sustainability and precedence of local sources in the heating system can be realized in the context of the LdhM (Van Tongeren, 2020b).

Although smaller working groups have evolved naturally in the network, as described in the section regarding the purpose of the participatory program, this is not a method actively applied by the coordinator and thus is not considered part of the methods but can be rather perceived as an additional, albeit positive outcome.

Information:

The type of information available in the HEN is mostly centered around presentations at meetings and summaries of plan elements. These are often provided by stakeholders within the network (Observation 1, 2019; Observation 2, 2020). Furthermore, newsletters are used to update participants in the network about new developments, sharing relevant policy documents and updates related to events.

Phase:

The HEN as a participatory process is fully operational and has elements related to all four phases of participation described by Wilcox (1994): initiation, preparation, participation, and evaluation. The *trigger* in the initiation phase to establish HEN was the feeling of urgency shared by the stakeholders that signed The Hague Energy Agreement (2018). Within the agreement, a *comprehensive plan* of how a network should be designed is formulated, and this agreement has been *signed by the municipality*. Another element related to the program administration is that the network is coordinated by an *external consultant*. The participants perceive this external coordinator as more independent than the municipality. The initiation phase is followed by the preparation phase the *stance* of the initiator and the *purpose* of the participation process are defined. In the case of HEN

the purpose is two-fold, with *finding preferences* as purpose from a government perspective and *building institutional capacity* being from a combined stakeholder-government perspective. The stance of the authorities belongs to the sub-category 'participation' but is not considered "substantial" because the HEN mostly functions to validate their plans and no substantial decision-making power is assigned to participants. The *methods* of information sharing and public hearings that are applied are part of the 'Inform' and 'Consult' sub-categories, which is in line with the purpose of the network. Information shared during the process is related to (parts of) *plans* that the municipality has, for example related to market formation, that were *presented* to the participants. The HEN is in the last phase, *continuation*. Characteristics of the continuation phase is that evaluation takes place about the direction and effectiveness of the process (Willcox, 1994). The coordinator of the network indicated that the coordination of the process, which was initially in the hands of the municipality, has been transferred to an independent organization after requests from participants.

"Participants requested an independent coordinator because they perceived the program to be dominated too much by the municipality" (Coordinator HEN, Personal Communication, 2020).

This indicates that evaluation about the direction of HEN has taken place because an independent coordinator has actually been appointed. An overview table of the public participation elements of the HEN is presented in **Appendix 17**.

7.2 Heating Working Group

The Heating Working Group (HWG) is a platform where citizen initiatives exchange information, knowledge, and skills amongst each other. Besides citizen initiatives, attendants represent the municipality, The Hague Energy Network, and other local stakeholders. Housing associations and companies seem to mostly participate upon the invitation of the HWG coordinator. The HWG is organized and facilitated by the NGO Sustainable The Hague, which is hired by the municipality. This NGO has expertise in the field of environmental affairs and has a well-established network with local citizen initiatives. During meetings, presentations are provided by researchers, municipality representatives, energy companies, lawyers, and other stakeholders involved in the heating transition in The Hague.

Program administration:

The HWG has dedicated *staffing* and a *written plan* to guide their actions.

"We have got a mission and vision, and we also have an annual plan with annual goals which is part of a multi-annual vision until 2022. These documents have the energy transition and urban greening as main targets in addition to strengthening the sustainability movement, which includes communication. This plan is adopted and approved by the whole team. Within that [framework] we can determine what is most urgent and what contributes most to achieving our goals, which basically is evaluated continuously" (Coordinator HWG, 2020).

On the website of Sustainable The Hague the activities of the mission, vision, activities, and working group are available (Duurzaam Den Haag, n.d.). In terms of *staffing*, the coordinator describes the heating working group as one of his primary tasks, in addition to actively supporting a group of citizens in Moerwijk. Sustainable The Hague is an independent NGO that is largely funded by the municipality.

“In the end, we have an independent role in our prioritization, but in order to determine priorities we do have conversations with the municipality, citizen initiatives, and other stakeholders that are involved, like what do we need right now? What is important?” (Coordinator HWG, 2020).

As such, Sustainable The Hague could be considered as an *external consultant* for the participants of the working group and other stakeholders.

Purpose

The heating working group has multiple purposes combining a government and citizen perspective. Although all purposes from the typology in the theoretical framework are explicitly referred to, except for advancing fairness and justice, the most frequently mentioned purposes are the *integration of local knowledge, stimulation of civil society, and representative input*.

Hereby, the *integration of local knowledge* and *stimulation of civil society* are most often mentioned. The purpose was mentioned when the coordinator of the HWG mentioned that the trigger to start the working group was that:

“There were already some citizen initiatives that initially were mostly working on solar roofing, and some of them started to look at how to become gas-free. That is where we started to assess how the knowledge that exists already, but is not available yet, how can this be exchanged and expanded together with the citizen initiatives. But also with the municipality and other stakeholders. Subsequently, we started the working group in 2016, and it grew immediately” (Coordinator HWG, Personal Communication, 2020).

This indicates a clear focus on integrating existing knowledge and stimulation of civil society, but these perspectives cannot succeed independently and need to be incorporated in the higher-order structures within the heating transition according to the coordinator.

“In the context of the challenging nature and pace of the transition, it cannot only come from bottom-up and you need higher-level coordination. For the formulation of the heating vision from the municipality, as well as regulation on a national level like the changes in the Heating Law. And also there the input from bottom-up is required” (Coordinator HWG, Personal Communication, 2020).

This is where the other purpose of *representative input* becomes relevant. The purpose of *representative input* aims to collect data on the perspectives of an entire community on specific issues with the goal that these insights might be used in subsequent plans (Glass, 1979). This is relevant because the stimulation of civil society through the HWG also includes their voice in the wider municipal and regional decision-making processes related to the heating transition.

“.. partly we facilitate that [integration of citizen perspectives], and that the knowledge and insight they have or are developing can grow and be shared.” (Coordinator HWG, Personal Communication 2020)

Furthermore, Sustainable The Hague aims to fulfill a bridge function between citizens and the municipality.

“We fulfill a role in collecting the feedback, for example, if certain neighborhoods think they are not sufficiently informed about the plans of the municipality. They can all say that one-to-one [to the municipality] independently, but we can also take it up and say wouldn't it be good that the municipality goes talk with them or invites them but the municipality can also inform us about issues so it goes two-ways.” (Coordinator HWG, Personal Communication, 2020).

This has elements of representative input and could even have the purpose of *solving conflict*. Moreover, Sustainable The Hague is involved with citizen groups outside of the heating working

group where it collects data on the perceptions, ideas, and preferences of various stakeholders in The Hague:

“... That look at how the energy transition in their neighborhood could best be organized from a citizens-perspective. And within that there are all types of roles, in The Hague Energy Network, in the focus neighborhood dialogue, in the City-Wide Energy Strategy, where Sustainable The Hague all provides input”. (Coordinator HWG, Personal Communication, 2020).

Stance

The stance of Sustainable The Hague towards participation is to *support independent community interests*, which is part of the category “substantial participation” with the highest degree of participant control.

“Our idea is that is it very good to involve people bottom-up as early as possible, at least people that want this, and to utilize their ideas and stimulate and support them.” (Coordinator HWG, Personal Communication, 2020).

Methods

The HWG is itself a workgroup, which is part of the sub-category involve. Within this working group citizen initiatives from all over the city participate that all are treated differently by the municipality in their respective neighborhoods. Some receive support and funding to develop their own plans, while others can only attend neighborhood meetings. Due to the mandate of the NGO Sustainable The Hague, methods belonging to the sub-categories collaborate and empower, like consensus conferences, citizen juries, or referenda are outside of its mandate. However, the spirit of the workgroup is one of delegated power, in which the participants decide what is prioritized. During the meetings of the workgroups (educational) workshops are provided and citizens exchange best practice.

Information

The main information/communication channels are the newsletters, website, other social media where videos, articles, and documents made by the participants are shared. Within the newsletter of the heating working group, relevant policy documents are shared and summaries of plan elements are provided. Summaries of participant input are communicated with other stakeholders, for example, vision statements like the Heating Manifesto (2017).

Phase

The HWG is a participation process that has gone through all four phases defined by Wilcox (1994): initiation, preparation, participation, and evaluation. In the initiation phase, the trigger for the heating working group was to collect existing knowledge and connect different citizen initiatives in The Hague and stimulate their development in 2016. The program administration of Sustainable The Hague has prioritized HWG as a relevant project within the heating transition and is part of a clear set of multi-annual plans. The project coordinator mentions his activities with the heating working group as one of his main responsibilities. Sustainable The Hague functions as an independent external consultant for the municipality of The Hague.

The funding for Sustainable The Hague and its role in the heating transition are also mentioned in policy documents like the Programmabrief Duurzaamheid (2020), which details the municipal actions in relation to sustainability and indicates its activities have been adopted by a government body (Van Tongeren, 2019b). Therefore, it is fair to state that there is a well-developed initiation phase. The

preparation phase of participation entails a clear purpose and stance towards participation. In that essence, Sustainable The Hague focuses on the purposes of both citizen and government perspectives, intending to be a bridge between the two. Within the interview, the coordinator described Sustainable The Hague as an organization in between the citizen initiatives and the municipality, that communicates messages from citizens to the municipality and vice versa. The stance towards participation is *supporting independent community interests*, which belongs to the category of substantial participation. Methods applied mostly fall in the *consult* and *involve* categories, with workshops and working groups at the core. Forms of delegated power are present in terms of the agenda-setting for during the workgroup heating. Outside of the working group Sustainable The Hague applies other methods that might fall in the collaborate or empower categories of methods. However, this is outside of the scope of the present study. The HWG seems to be constantly evaluating within the context of a changing environment. This is illustrated by the following quote:

“You look each quarter of every half year how things are going, but also what happens in the environment. Is there a new coalition agreement with different priorities, then you can tailor your program to that, or maybe there is a question from within the municipality”... “We have to constantly adapt in a transition where no-one exactly knows how it will develop. You have to be flexible, that counts also for the municipality, citizen initiatives and other stakeholders” (Coordinator HWG, Personal Communication, 2020).

An overview table with the public participation elements of the HWG is presented in **Appendix 17**.

7.3 Frontrunner group Mariahoeve

The frontrunner group Mariahoeve is facilitated by the program manager Mariahoeve from the energy transition team of the municipality. The events take place in the district. During the meetings, a variety of local stakeholders attend, including homeowners, condominium associations, housing associations, citizen initiatives, and others.

Program administration:

In Mariahoeve the district team is responsible for the organization of the frontrunner group (Koplopersgroep) participation program. The program manager for Mariahoeve currently collaborates with other municipal policymakers in the ‘program team’ to organize the participation (Program Manager Mariahoeve, 2020). To the question who is final responsible the program manager stated:

“That is a good question. We currently coordinate it with the program team with the representatives from DSO [Department of Urban Planning] Housing and DPZ [Department Public Affairs] from in the neighborhood. You could say that participation really belongs to the district offices, or the housing desk [Hou van je Huis Balie], but currently we do it together” (Program Manager Mariahoeve, Personal communication, 2020)

In the City-Wide Energy Plan and the Coalition Agreements it is stated that the neighborhood energy plan will be drafted together with citizens and other stakeholders, but exactly how is not described (Van Tongeren, 2020c; Coalitieakkoord, 2019). In the rebel study (Van der Veen & de Coo, 2018) and the program plan energy transition (Hengelaar, 2018) the main stakeholders in the process are described in a strategy document to make Mariahoeve sustainable. This shows that *external consultants* have been involved, although they are not in the lead. External consultants also gave presentations during frontrunner group meetings about the technical aspects of the transition (Observation 10, 2019). There is however no *comprehensive document* describing how the process will be designed, or a plan that has been disseminated to the public. Because the program manager is

part of the municipal administration, the activities in Mariahoeve can be considered to be *adopted by a government body* in the form of the program-plan energy transition for Mariahoeve. This plan is broader in its scope and does not detail a specific participation strategy.

Purpose

The main purpose of the frontrunner group is to *build legitimacy* and to *find preferences*. In various documents like the program plan energy transition and the City-Wide Energy Plan it has been stated clearly that the municipality is in the lead in these neighborhoods (Hengelaar, 2018; Van Tongeren, 2020c). As such, it is not surprising that the main purposes of the participatory process fall within the sub-category “government perspective”. The program manager in Mariahoeve explained that:

“We believe it is important to bring along the neighborhood to the goal of 2030 fossil-free. For one person that is understandable, another does not really care or know what you are talking about. Still you can get them on board in the direction of gas-free, that on a specific moment no gas will be provided and something else will come. The second line is very clear: what can you do yourself to reduce your energy bill and make your home more comfortable” (Program Manager Mariahoeve, Personal Communication, 2020).

The focus of the program is to create awareness and by spreading information in the district about the energy transition and to build legitimacy for the plans that the municipality has to detach the neighborhood from the gas infrastructure before 2030. To build legitimacy the municipality is in continuous dialogue with important stakeholders

“... we believe it is important to have a diverse group of heat consumers in the neighborhood to progress in the direction of a neighborhood energy plan together” (Program Manager Mariahoeve, 2020).

Without the input and consent of key stakeholders it would be complicated for the municipality to realize the plans. Therefore, being in touch with them is essential. In addition to building legitimacy, the process is also tailored to *find preferences* of participants. This is done by engaging in dialogues with key stakeholders during the frontrunner group meetings.

“Mariahoeve as neighborhood is really suitable to have a dialogue with. ... We chose consciously to directly start the dialogue” (Program Manager, Personal Communication, 2020).

Within these dialogues, there is a two-way exchange of communication. The municipality needs the support of key stakeholders and therefore aims to understand their concerns and wishes.

“That you say as a municipality, we take the lead with research. You can come up with everything as a Municipality but it is good to validate that with the heat consumers [in Mariahoeve]” (Program Manager Mariahoeve, Personal Communication, 2020).

It is nevertheless clear that the municipality is in the lead, as stated in various documents, and aims to find out what the preferences, wishes, and concerns from stakeholders in Mariahoeve are.

“I really don’t mind if there are many different opinions, that only provides more insight. The question is more, how do you reach them?” (Program Manager Mariahoeve, Personal Communication, 2020)

This relates to another purpose that has been referred to and relates to *integrate local knowledge*. Especially in relation to involving other stakeholders in Mariahoeve, the municipality has often openly invited attendants to come up with ideas on how to get more stakeholders on board.

“How do we reach others in the neighborhood? Let us know if you have ideas!” (Observation 10, 2020).

In addition to questions during the meetings, the municipality has reached out in newsletters asking for the preferences of the stakeholders regarding the format of the process (Newsletter, 2018), and

invited the attendants a specific focus group in case they were interested to think with the municipality how more inhabitants and property owners could be reached and to continue the dialogue about the technical dimension of the scenario proposal (Invitation Focus Group, 2020). This indicates that the municipality attempts to integrate local knowledge about the heating transition.

Stance:

The stance of the initiating party during the frontrunners meetings is *information and consultation*. This is in alignment with the purpose of *finding preferences* and *building legitimacy*. *Informing* happens in the context of the upcoming changes and the actions individuals can take already to prepare themselves:

“We believe it is important to bring along the neighborhood to the goal of 2030 fossil-free. For one person that is understandable, another does not really care or know what you are talking about. Still, you can get them on board in the direction of gas-free, that on a specific moment no gas will be provided and something else will come. The second line is very clear: what can you do yourself to reduce your energy bill and make your home more comfortable” (Program Manager Mariahoeve, Personal Communication, 2020)

Information about what is coming is the first step to get people on board with the plans of the municipality. In addition, specific information tailored to homeowners is spread to stimulate them to take action. Next to informing the stance of the municipality is also to consult:

“You see in a neighborhood like Mariahoeve that we have invested a lot of energy in being in conversation with heat consumers, so not only individual households but also housing associations that have a lot of property, condominium associations, companies, shopping malls, schools, health care institutes”. (Program Manager Mariahoeve, Personal Communication, 2020)

Their input is taken into consideration by the municipality, to compare with the existing plans, as was stated during to the participants during a meeting of the Frontrunner group.

“You can share your perspective and that will be included in the scenarios. The question for you: how do you feel about being part of a pilot-neighborhood?” (Observation 10, 2019).

During such meetings many questions are asked. The program manager indicates that this input is considered as valuable.

“We always write extensive minutes about a specific evening. Questions asked are always answered and communicated back. We are very focused on that and find it very important”(Program Manager Mariahoeve, Personal Communication, 2020)

This indicates that consultation is taking place after which feedback is provided back to the participants. In the context of involving more people in the neighborhood, the municipality appears to lean towards the *thinking together* stance. This is exemplified in the context where an external consultant was asked to assist with reaching out to people in the neighborhood.

“..the moment we decided to perhaps work together with external partners in this [reaching out to people in the neighborhood], you see that the neighborhood feels the need to do it themselves and that is positive and good”. (Program Manager Mariahoeve, Personal Communication, 2020).

Subsequently, the external consultant was not involved in the program any further because the participants preferred to come up with their own solutions. This indicates that their input is considered seriously. The invitation for further dialogue regarding the scenario document also indicates that the municipality is willing to think together with citizens in the context of drafting the neighborhood energy plan.

Methods:

The participation methods applied in Mariahoeve fall within the “inform” and “consult” sub-categories. Meetings in the district are a central method to reach participants. Furthermore, information is communicated regarding what building owners can do individually to make their homes energy-efficient, what subsidies are available and updates regarding the plans of the municipality. *Surveys* are sent to participants to evaluate the meetings and a *drop-in center* is located in the neighborhood. The program manager Mariahoeve indicates that there are issues with the visibility of the latter, but the shop is located in the shopping mall and on specific times demonstrations of heating installations are provided and municipality members are present to answer questions. To involve more stakeholders from the neighborhood in the participatory program the method *focus groups* is also applied.

Information:

Information spread consists mostly of summaries of plan elements, vision statements, and information regarding sustainable home renovation possibilities. The channels used are presentations at meetings, leaflets, posters, newsletters, regular articles in the local newspaper and recently a website.

Phase:

The Frontrunner group Mariahoeve has various staff members working on it and a target, but a clear written plan in which the participation purpose, methods, and goals are prescribed seems to be lacking. In terms of staff members, the responsibilities are currently shared between multiple team members. This could create unclarity about who yields final responsibility. The purpose of the frontrunner group mostly relates to *building legitimacy* and *finding preferences*. The methods applied and information spread, that are part of the participation phase, are in alignment with the purpose and mostly focus on informing and consulting. In terms of the continuation phase, where evaluation takes place, the program manager and newsletters indicate that the team aims to evaluate how individual meetings go. There does not seem to be a broad evaluation of the initial plan or specific targets or KPIs. Therefore, it can be concluded that the frontrunner group seems to be in the participation phase. An overview of the public participation elements of the frontrunner group is presented in **Appendix 17**.

7.4 Concluding section

The aim of this chapter was to answer the following sub question: *In what sort of public participation processes can stakeholders of Mariahoeve partake?* This chapter showed that there are multiple processes in which stakeholders from Mariahoeve participate. The HEN, the HWG and the frontrunner group all offer participation opportunities.

However, there is a difference in the stance and purpose between the frontrunner group and the HEN when compared to the HWG. The HWG represents the only participation process that adopts a purpose that falls in the sub-category ‘citizen perspective’ with the purposes of *gathering representative input* and *supporting civil society*. It is also the only participation process with a stance to *support independent community interests*. The HEN and the frontrunner group, on the other hand, seem to be more focused on the purpose of *finding the preferences* of stakeholders and to *building legitimacy* by validating the strategy of the municipality. Their stance is *information* and *consultation*.

For stakeholders it is possible to become part of two processes, one led by external consultants, the other by the municipality. Different perspectives exist as to how clearly the program administration is arranged between the three processes. Especially for the frontrunner groups, the program administration is less clear.

The type of process in which participants can participate determines the amount of information available to participants and the influence that stakeholders can have on the outcome of the heating transition. In this regard, the purpose of the program and the stance of the initiator are crucial aspects of the program. In the HEN and the frontrunner group the purpose and stance are primarily related to information and consultation. The input gathered in these processes indirectly influences policymaking related to the heating transition, but in the end the decisionmakers decide how the input is used and what is communicated back to the participant. In other words, there is no substantial participation. For local stakeholders and citizens these processes do provide the opportunity to learn about the plans of the municipality and discover how their concerns are being registered. They do not, however, have direct influence on the policymaking process.

For HWG, on the other hand, purpose is to *stimulate civil society, gather representative input and build institutional capacity* to accelerate the heating transition. The stance of the HWG is to *support independent community interests*. However, they do not have final decision-making power about how the heating transition will be managed. As such, the process provides opportunities for participants to learn about experiences in other parts of the city, to provide the participants with skills and to raise their concerns within formal decision-making procedures.

The sub-question in this chapter was: *In what sort of public participation processes can stakeholders of Mariahoeve partake and how is it organized?* In sum, the municipality approaches the heating transition in Mariahoeve both top-down and bottom-up with a focus on sharing information and consulting. The HWG aims to stimulate civil society in the district and approaches the heating transition bottom-up, while the HEN and the frontrunner group approach it more top-down.

Chapter 8 - Energy Justice Perceptions in Mariahoeve

The target of this chapter is to provide an overview of the energy justice perceptions related to the heating policy formation in Mariahoeve. The chapter addresses sub-question three: *What are energy justice perceptions of local stakeholders that are part of the public participation process?*

The sub-question will be answered by analyzing the most important justice claims. The relevant energy justice perceptions related to Mariahoeve in relation to the HWG and the frontrunner group are analyzed. Unfortunately, not sufficient data was available for the HEN. Subsequently, the insights from the analysis will be used to answer the sub-question. The energy justice perceptions will be presented for each participation process specified per tenet of energy justice. For an overview of the recorded energy justice perceptions in the institutional context regarding the LdhM and the limited data recorded for the HEN, see **Appendix 18.1** and **Appendix 18.2**.

Relevant energy justice claims related to Mariahoeve in the context of the HWG and Frontrunner group in which stakeholders from Mariahoeve can participate are presented per tenet of energy justice. Within each section an overview of relevant events in which justice perceptions have been expressed is presented. The timeline of relevant events is followed by an analysis of the justice claims based on the tenets of energy justice. In **Appendix 18.1-18.4** overview tables are presented of each relevant event with the justice concern and the category of energy justice it belongs to. First, the HWG is analyzed, secondly the frontrunner group.

8.1 Heating Working Group The Hague

The relevant events in the scope of the present study where justice claims and concerns that have been uttered in the context of the HWG are visually presented in **Figure 21**.

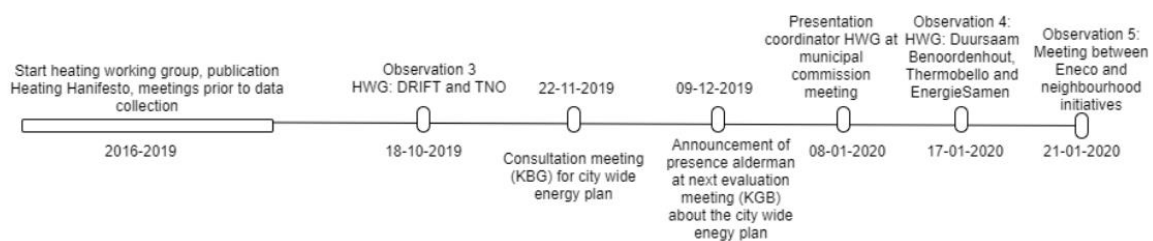


Figure 21. Events analyzed in the context of the HWG

Below the justice claims per tenet of energy justice are presented. **Appendix 18.3** provides an overview of the justice claims per relevant event.

8.1.1 Procedural Justice

Procedural justice claims in the Heating Working Group (HWG) were most frequently related to “communication of information”, followed by claims related to “influence on decision-making” and “impartiality”. In relation to transparency, concerns were already voiced in the Heating Manifesto drawn up by the participating citizen initiatives in the HWG, which relates to communication as well as outcome fairness. In the Manifesto they call upon the municipality to “Create a transparent market with level playing field for large and small parties like district cooperatives” (Heating Manifesto, 2017). These small scale initiatives require this transparent communication to defend their interests within the transition where they face larger corporate players. In late 2019 during the Klankbordgroep (KGB) meeting between citizen initiatives and consultants hired by the municipality to discuss the

development around the city-wide energy plan these concerns were still present. In the minutes of the meeting the first point mentioned is: *“Citizens more central. Take participation seriously by sharing knowledge [about] The Hague Energy Strategy, Mariahoeve: you share the preferred scenario but not the alternative. Why?”* (Minutes KBG, 2019). The participants indicated that *internal communication* and *internal process display* is insufficient from their perspective. Next to the direct references to information sharing, the fact that they want to be more “central” indicates they experience a lack of *Consideration* in terms of influence on the decision-making process. The same two concerns are illustrated by their references to a lack of *process display* about how the municipality makes decisions: *“take participation seriously by using existing knowledge (Heating Manifesto, Energy Agreement): many studies disappear in the city hall without decisions being made”* (Minutes KBG, 2019). The participants want more *process display* about how the municipality integrates requirements formulated in existing policy documents like the heating manifesto, which relates amongst others to the type of heating infrastructure and sources that should receive precedence in the heating transition. These claims are thereby indirectly related to the discussion surrounding the LdhM, to which the participants refer in the same meeting by asking the municipality to *“communicate about room for participation and about decision-making: the alderman is positive about the LdhM in the AD. Has this been decided already?”* (KBG, 2019). This illustrates that the participants do not feel like they understand how the decisions surrounding this project are taken, a lack of *process-display*. It also indicates that the perceptions of the alderman and policymakers about the LdhM were not *communicated internally* and in advance to participants.

Next to claims about internal communication, external communication is mentioned where the citizens require the municipality to communicate more to stakeholders outside the participation program: *“Indicate what citizens can do already, which is important for tenants in the rental market especially in the time that they have to wait until they are detached from gas”* and *“provide information about ESCO’s. This can be an attractive perspective for home owners”* (Minutes KBG, 2019). This illustrates that the participants want that external communication is improved.

Indirectly related to internal communications are specific concerns in which the participants express the demand for further *explanation* of the municipality, again related to the type of infrastructure: *“explain what you mean with an open network. Will there be a possibility for citizens to deliver heat back to the distribution DH-system?”* (Minutes KBG, 2019). Similar questions were asked to Eneco during the participation meeting where participants wanted to know *“Why is the backbone 120 degrees (centigrade)?”*, *“Could local DH-systems be a source?”* and *“Are you going to make your plans public?”* (Observation 5, 2020). The *explanation* and *internal communication* is important for the participants to understand what their technical possibilities will be.

Finally, specific participants made claims about the impartiality of the municipality during the participation meeting with Eneco: *“Do you trust the decision-making capacity of the municipality? I don’t.”* (Observation 5, 2020). This indicates that this participant felt that there is a lack of *impartiality* and *consideration* of his/her concerns. However, other participants indicate the exact opposite, e.g. during a HWG meeting with Thermo Bello and Energie Samen stating that. *“The municipality supports citizens financially and judicially to write a plan that fulfills the requirements of the PBL”* (Observation 4, 2020). This signals that the differences in participation policy per neighborhood can generate opposing justice claims.

8.1.2 Distributive Justice

Within the HWG most justice claims directly or indirectly related to distributive justice. Often related to “outcome fairness” but also “outcome favorability”. Recurring subjects that relate to outcome fairness and favorability are the *precedence of local sources*, *the sustainability of waste heat*, *technical aspects* of the heating infrastructure (permission for construction, ownership of the infrastructure, the temperature of the heat), and *freedom of choice*.

The participants expressed conditions that should be met for a fair outcome of the heating transition in relation to *local heating sources* in the vision document heating manifesto (2017). Within this document the fourteen citizen initiatives that signed it and participate in the HWG called upon the municipality to: “*Use the heating sources available in the city ... and don’t participate with the LdhM but rather invest in the development of new and local heat sources*”(Heating Manifesto, 2017). A fair transition, according to the participants, gives precedence to local sources and not regional heating sources like the LdhM. This is supported by another quote linking *outcome fairness* to *outcome favorability* in the document stating that: “*conventional corporate interests slow down the development of alternatives. Use the energy transition for innovation, new entrepreneurship, and local job creation*” (Heating Manifesto, 2017). This illustrates their concern about the impact of large projects like the LdhM, which will not foster the development of local sources and jobs, and thus could constitute an unfair and unfavorable outcome for the participants.

Similar claims were made during both the KBG meeting about the City-Wide Energy Plan and the participatory meeting with Eneco. In the KBG meeting minutes it was noted that “*The wish exists to use local heat, the LdhM is not local and not sustainable*” (KBG minutes, 2019). Later, the participants said to the Eneco representative that “*as local providers we cannot compete with you because of higher costs of local sources*” (Observation 5, 2020). This illustrates that the participants perceive the competition in the future heating market with energy companies like Eneco as *unfair*.

A second subject that occurs multiple times in relation to *outcome fairness* and *favorability* is the *sustainability waste heat*. This topic was subject to an intense discussion during the participation meeting with Eneco. Participants started off asking the representative if “*sustainable waste heat, is that coming from the fossil industry?*” (Observation 5, 2020). After the representative explained that this waste heat avoids additional emissions for heating in The Hague, the participants argued: “*CO₂ emissions of waste heat is much higher than burning gas here: 59kg vs 120 kg per GJ*” “*That is double counting!*” (Observation 5, 2020). This illustrates that the participants consider the waste heat from the (fossil) industry in Rotterdam not as emission-free, while it might negatively affect business cases of local sources. At this point, the coordinator of the HWG intervened to ease the tension by stating “*This discussion goes beyond the boundaries of The Hague*” (Observation 5, 2020). This shows that *outcome fairness* and *favorability* claims also relate to decision-making processes outside the municipal boundaries.

In terms of technical aspects, the heating manifesto again set the tone by calling upon the municipality to “*Organize the heating transition in a decentralized manner with scalable heating sources with flexible temperatures and an infrastructure that allows ownership of citizens*” (Heating manifesto, 2017). This directly links the governance of the transition to *fairness* and *favorability* perceptions to technical aspects like heating and ownership. Justice perceptions exist amongst participants about the management of the infrastructure and whether this will be fair and favorable towards them. This was apparent during the meeting with Eneco when participants asked “*Could the backbone be from a public company instead of Eneco?*”(Observation 5, 2020). Because Eneco owns the existing HT DH-system that will function as a distribution system in the future, its internal policies directly relate to how the outcome fairness and favorability is perceived by participants. After Eneco said multiple options exist, the participants continued to ask “*who manages the connection point between the transport*

and distribution network, and what are the requirements?” (Observation 5, 2020). This illustrates the concerns that citizen initiatives might not be able to access the distribution system of Eneco.

The sustainable heating infrastructure that will be developed also has an impact on the freedom of choice for heat consumers. In the heating manifesto, there was already a call to *“Develop an open DH system in which all forms of heat can be transported from source to consumer”* (Heating Manifesto, 2017). On an open grid, consumers could choose between various suppliers is the idea behind this. This is directly related to outcome favorability from the perspective of the participants during the HWG meeting with Drift, an impact-driven research center, because often *“companies building DH-systems often also own the heating sources. Some participants perceive this as problematic because it might result in a monopoly”* (Observation 3, 2019). This freedom of choice also surfaced in the meeting with Eneco when participants asked *“Can the district (residents) decide about their own heating sources?”* (Observation 5, 2020). This freedom of choice is important for participants because that would allow them to choose for local and non-waste heat alternatives, but also because of pricing issues, as became apparent in the KBG meeting *“With collective DH-systems you do not have freedom of choice. How will you guarantee a fair price?”* (KBG, 2019).

8.1.3 Justice as recognition

The justice claims related to justice as recognition in the HWG mostly centered around the role of citizen initiatives as claim holders, the inclusion of these claim holders in the process, and the distribution of responsibilities for properly managing the heating transition. An important concern for citizens is that their role is sometimes simplified by policymakers. Within the KBG meeting, they stressed that *“Citizens are not only consumer but also producers”* (Minutes KBG, 2019). They thus perceive themselves as claim holders in regard to both the consumption of heat and the production of heat and experience the recognition of the latter role not sufficiently. A similar concern was raised during the HWG meeting with Energie Samen where the representative of this cooperative organization stated that *“recognition is the new commons... the perception towards citizen initiatives must change, we have so much knowledge that we are no laymen any more”* (Observation 4, 2020). This illustrates justice perceptions amongst participants that there is a lack of recognition for local initiatives as claim holders. Financial constraints contribute to this lack of recognition, according to participants, who depend on the municipality for financing but want to develop independent perspectives. This was discussed during the KBG meeting in which the need for alternative financial means was voiced: *“Another form of subsidy is required: subsidy makes you dependent on the municipality while you want to work independently”* (KBG, 2019)

Finally, there were concerns raised related to the distribution of responsibilities. Within the Heating manifesto this is clearly described by the statement that *“the municipality determines the (financial) framework, boundary conditions and facilitates the transition process”* (Heating Manifesto, 2017). However, the same signatories have questions about how the municipality is acting upon that responsibility. This most clearly surfaced during the HWG meeting with Drift where a participant asked: *“Within the direct democracy you would expect ownership of citizens, but how does this work? In the Statenkwartier [district] there is an idea for a local heating solution. The question is: who may construct this? The Alderman says that she does not have the power to allow that. In the end, the municipal council has to decide..”* (Observation 3, 2019). It is thus not clear to all participants how responsibilities are divided between different public bodies within the municipality.

8.2 Frontrunner group and neighborhood events

Within the scope of the present study the relevant events for the frontrunner group in Mariahoeve where justice claims and concerns have been expressed are visually presented in **Figure 22**.

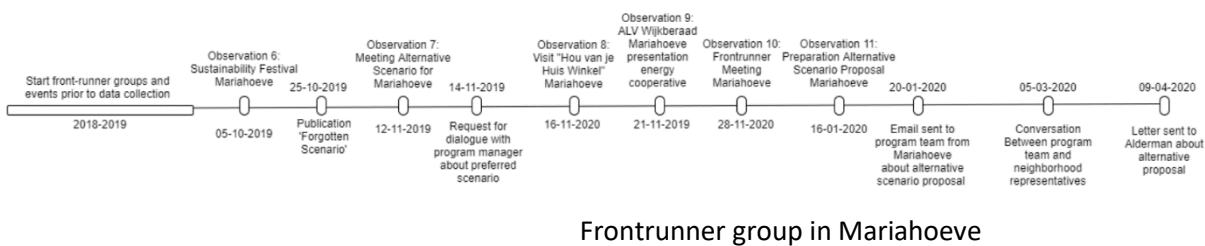


Figure 22.
Events analyzed in the context of the

Frontrunner group in Mariahoeve

Look in **Appendix 18.4** for the justice perceptions of the housing associations and energy company Eneco. For clarity the data is presented in two ways: for each tenet of energy justice the most important claims are described in this section and an overview table with the most relevant claims for each event is provided in **Appendix 18.5**.

8.2.1 Procedural Justice

Most procedural justice perceptions revolved around to “communication of information”, “influence on decision-making” and “impartiality”. Some perceptions regarding “facilitation” were also raised.

8.2.1.1 Access to decision making: facilitation

Justice perceptions about *facilitation* relate to how the participants perceive that initiators facilitate access to the decision-making process (Blok, 2019). Justice claims were made about possibilities to participate in the future after the preferred scenario was shared by the municipality. During the frontrunner group meeting participants asked “*Is it a good idea to let companies, inhabitants and others vote in a referendum?*”, “*Will we get a choice?*” and “*What will be the possibilities?*” (Observation 10, 2020). When the program manager answered that the municipality was looking at the possibilities, without further explanation, the tension in the room rose and people start to talk loudly with each other to the point that the mediator had to intervene. This illustrates that some participants are concerned about how access to decision-making will be facilitated for participants. This concern was also voiced during interviews. Now the implementation phase of infrastructure is coming closer, some directly relate this to the participation process and the role of the frontrunner group. They wonder “*Will the participation still be onboard during the next steps? When the first actions will be implemented*” (Participant 3, Personal Communication, 2019). Therefore the participants perceive participation thus as important for a fair outcome.

8.2.1.2 Influence on decision-making - Consideration

In relation to the participatory process in Mariahoeve there are justice perceptions that indicate that there is not sufficient consideration but also the opposite (that there is consideration). Within the data gathered there is however a difference between stakeholders that are part of the frontrunner group and ones that are not. The group that does not participate in the frontrunner group mostly expressed negatively about consideration, e.g. by stating “*policymakers have to reach targets and the inhabitants have little to say about it*” (Observation 7, 2019) or questions like “*Is the opinion of people that disagree actually included in the decision-making process? You are being invited but it does not matter.*” (Observation 9, 2019). This illustrates the perception that input will not be considered by policymakers.

Negative consideration is experienced by participants because some do not feel in general that the input they give is considered, because of the technical complexity, and due to the sudden presentation of the preferred scenario. An example of a claim from the first group is: “*Look ... in a*

reaction the municipality says we are going to look seriously at the critical voices but if that happens in practice? We will have to see.” (Participant 3, Personal Communication, 2019). On the other hand, participants felt that the sudden presentation of the preferred scenario showed that their concerns could not even be considered, also because of their perceptions of what participation should be like: “If you want to participate you want to have influence, think along with the whole development. But if there is a preference scenario that is forced upon you, good or not good, then I say where is the participation?”. (Participant 5, Personal Communication, 2020). This shows that some participants feel their concerns are not considered and that the form of participation can influence consideration justice claims. Another concern about consideration relates to the technical complexity of the heating transition. In one interview the participant said that even if all condominium associations would be united.. “still the question is what kind of influence I would have on the decision-making, because it needs to be realistic” (Participant 5, Personal Communication, 2020). This relates to how difficult it is to consider a wide variety of views because it needs to be technically sound.

In contrast to the skeptical consideration perceptions, there were also positive consideration claims. These claims are related to how the district office (Stadsdeelkantoor) of the municipality responded to an initiative of the participants and to a conversation some participants had with the program manager in Mariahoeve. In relation to the District Office one participant said: “The message is starting to resonate in the District Office. They are willing to support it, although not blindly, because it is a wider movement in the country”. (Participant 2, Personal Communication, 2020). This indicates that there are policymakers that seriously consider the concerns of the participants. Furthermore, some participants that initially expressed themselves only critically explained that after the conversation with the program manager: “The program manager understands why I want to ask these questions” and “it took some time for the insight came, but in the end it means that we understand from each other ... I understand why [Program Manager] is in this role and with this assignment cannot do something else. And for the assignment she got she is performing well. But she understands that we want to ask questions, and that these questions are very important.” (Participant 2, Personal Communication, 2020). Clearly, the conversation led to an experience of consideration amongst participants, in addition to understanding at the participants’ side for the role that the program manager is assigned to in the institutional context. A similar reaction can be observed with another participant that was present at this meeting. “They really did not understand why we believe the LT scenario is so important. And after we explained it they for the first time understood from, ah ok.... And they found that an argument based on which they would look internally whether they could get support for it” (Participant 3, Personal Communication, 2020)

8.2.1.3 Communication of Information – Process display

Communication of information is a point where participants expressed themselves unanimously critical. This relates to all four dimensions of *process display*, *internal communication*, *understandability*, and *accessibility*. Justice perceptions about internal process display relate to whether participants understand how the decision-making process itself works and how their input is included. The main concern is that participants do not seem to understand how their input is being integrated in the decision-making process. One participant explained: “Yeah I will just say it how I experience it, on the one hand the municipality gives that impression [that citizens have influence]. But when that step finally has to be made, yeah then we do not see that much from the decision-making”. (Participant 3, Personal Communication, 2019). A similar concern was expressed by another participant who claimed “There is a meeting about groundwater in The Hague and Mariahoeve is not part of it because they are probably working on it, but they don’t say what they do.” (Participant 1, Personal Communication, 2020). The same critique is expressed about the input provided in the frontrunner group meeting before the presentation of the preferred scenario. “That was a very nice meeting but I never received the feedback, what came out of it” after which the preferred scenario came as a shock “And then you don’t

get feedback. And then you don't get insight in how that is developed, and how it is included in the decision-making process. And where are we now?" (Participant 2, Personal Communication, 2020). For these participants, the lack of process display influenced their perception of how input is incorporated in the deliberation, which generates a feeling of injustice.

8.2.1.4 Communication of information - Internal communication

In terms of communication of information, the general view seems to be that more information should be shared. Participants expressed that they feel not all information is shared: "I was quite surprised by the content of that [The preferred scenario] ... because I have the idea that not all options are researched yet". (Participant 3, Personal Communication, 2019). Other participants indicated this as well (Participant 5). This internal communication does not only apply to the program team in Mariahoeve, but also to the Alderman. One participant explained that the lack of internal communication caused the growth of distrust. "And what does not help is that we then read in the media an article in the AD that alderman van Tongeren is very happy with the plan to build a DH-system. Then we think yes but we have not heard it that concretely. And if you hear that from the media, yes then you take steps back". (Participant 3, Personal Communication, 2019). The issue of internal communication was also expressed in a letter sent by the participants to the alderman to voice their concerns. They claimed that "Nevertheless it remains unclear if this [integrated heating system] is the basis of an integral development of the neighborhood, where the energy transition is just one of the challenges" (Participant 2, Personal Communication, 2020). This illustrates that participants in the frontrunner groups experience a need for more complete internal communication from the municipality.

During the meeting of the frontrunner group meeting in November 2019 tensions rose high in relation to *consideration* and *communication of information* justice-perceptions. The participants proclaimed: "On a provincial level the decision has already been made and after that the citizens are involved. What is the role of alderman van Tongeren? Has it already been decided?" (Observation 10, 2019). Similar claims were made during other events (Observation 9, 2019) This illustrates that there is a sentiment that justice perceptions of participants are not *considered* and that the stance of the municipality towards the projects has not been *communicated internally*.

When the municipality did share more information, like the fact that the program manager decided to share the preferred scenario in the first place or that it is a very difficult decision-making process, participants expressed themselves positively about *internal communication*. This was the clearest during the frontrunner meeting in November 2019 when, after a heated discussion, one participant stood up and said "we appreciate that you have exposed yourselves and we want to collaborate"(observation 10, 2019). Also during the interviews this was confirmed "In itself it is good [that the preferred scenario has been shared]. If it will have the consequence that we are going to look at the alternatives due to the critical responses to it" (Participant 3, Personal Communication, 2019). Another participant said : "At the frontrunner groups we received information in terms of how difficult the decision is. That was a kind of openness. I think more than usual." (Participant 2, Personal Communication, 2020). This might indicate that more internal communication could improve the justice perceptions of participants.

8.2.1.5 Communication of information: External communication

Related to external communication the issues mostly relate to the fact that there is no formal external communication about the plans of the municipality. The general perception of the participants seems to be: "To me they communicate well, but not to the rest of the inhabitants" (Participant 4, Personal Communication, 2020). Multiple participants indicate that when they talk with their neighbors about the energy transition, these neighbors express that they have no idea about what is going on or where they can find information. This issue was also mentioned during the gatherings of

participants outside of the frontrunner groups, in which they expressed that they wanted to involve more people (Observation 7, 2019). More than half of the participants indicated in the interviews that they believed the municipality should send a letter to all residents in Mariahoeve that the district is a focus neighborhood including an explanation of the municipal plans with the district. One participant said *“The fact that Mariahoeve is a focus neighborhood has more or less become known these days, but that has never been formally communicated to the participants, to the residents”* (Participant 2, Personal Communication, 2020). This has risks according to another participant: *“The people in the frontrunner groups know that [the plans of the preferred scenario], but not the people in the neighborhood that are not part of the frontrunner group but that do want the information. The risk is that people will fill in the gaps themselves, and that gives birth to stories with a negative connotation. That can be prevented by directly providing concrete information”* (Participant 3, Personal Communication, 2019). These quotes illustrate that external communication affects the justice perceptions of local stakeholders.

8.2.1.6 Communication of information: Accessibility and Understandability

In general, the participants believe that information is not easily available. In the last section it was already mentioned that neighbors of participants cannot access the information. One participant explained that *“If you google on The Hague Energy transition I don’t think you get enough information about the state of affairs”* (Participant 3, Personal Communication, 2019). This is a big concern to participants that worry about how they will heat their house in the future, or how to address the issue within condominium associations. One participant said in an interview: *“We don’t know what we have to adjust in our houses. Can you use your radiator? Can you use your gas boiler?”* (Participant 1, Personal Communication, 2020; Participant 5, Personal Communication, 2020). This experience is shared by others because during the front-runner group meeting many questions were asked that apparently are not clear or available to participants. People had questions about how to connect to DH-systems (Observation 7, 2019) when the DH-system is being implemented (Observation 10) and what is meant with being climate neutral in 2030 (Observation 7). Questions also exist about the role of different stakeholders like DSOs and energy companies (Participant 1, Personal Communication, 2020).

8.2.1.7 Impartiality

Within the participatory process in Mariahoeve, some participants expressed justice perceptions regarding the *impartiality* of the municipality. In response to a presentation about the heating transition and potential arrival of a DH-system attendants proclaimed that *“The people at Spui have already been convinced”* (Observation 9, 2019). This perception is also indirectly expressed in a document that has played an important role in the neighborhood: the ‘forgotten scenario’ which has been written by an engineering company CMAG and describes the possibilities for LT, local and hybrid DH-systems. Within the document the suggestion is raised that the municipality has left out important information *“The coalition agreement, the climate pact and the heating manifesto all refer to the precedence of local LT-sources, why is this scenario “forgotten?”* (Forgotten Scenario, 2019). Similar perceptions are illustrated by quotes of participants who also have questions about the impartiality of the municipality *“The impression that I get is that they are not neutral because they already have made some sort of pre-choice on which they have their focus”*. (Participant 3, Personal Communication, 2019). Non-neutrality of an institution that has to supervise the participation process can affect perceptions about procedural justice of participants. Or in the words of a participant *“You hear often in these kinds of situations the term fake-participation. You hear that also with other projects. I think the citizens look with some distrust, well that sounds too heavy, but that they have a critical perception of the municipality”* (Participant 3, Personal Communication, 2019). This illustrates that because the municipality has not included hybrid systems in its assessment of feasible options for Mariahoeve, even though there are

multiple policy documents and an engineering report written about it, the justice perceptions of participants were affected.

8.2.2 Distributive Justice

Within Mariahoeve many justice claims have been made about distributive justice. Most claims were made in relation to outcome fairness.

8.2.2.1 Outcome Favorability: Non-financial

Three main topics are essential concerning the justice perceptions of participants within the heating transition in Mariahoeve: *freedom of choice, the heat from the Port of Rotterdam, and concerns about the risks of geothermal energy.* In the forgotten scenario document, it is argued that the DH-system proposed in the preferred scenario from the municipality would most probably entail the use of heat from the LdhM which is generated in the Port of Rotterdam (Forgotten scenario, 2019). Participants are concerned about whether this is a reliable heat source for their homes, as was expressed during a meeting to discuss alternative scenarios for Mariahoeve: *“What is the future of the Port of Rotterdam? Will they emit so much heat in the future? This is building a house on quicksand”* (Observation 7, 2019). In case the source would prove insufficient, people could not heat their homes. Another aspect that concerns people is whether the heat from Rotterdam is sustainable. One participant said *“the DH-system that is proposed now is based on waste heat from the Port of Rotterdam. How is that generated? With fossil fuels on a fossil way. When you talk about clean energy it is a question whether this is clean”*. (Participant 3, Personal Communication, 2019). Some participants clearly consider non-sustainable energy clearly as unfavorable.

Other justice perceptions related to geothermal energy and potential (environmental) risks that this might have for inhabitants of Mariahoeve. During the frontrunner meeting, questions were asked about whether this is safe *“Is geothermal energy safe? Does it include gas and are there disadvantages?”* (Observation 10, 2019). The same issue was addressed in interviews with one participant that had previous experience with geothermal energy. This participant explained *“I am not in favor of geothermal energy because often deep geothermal energy wells disturb the ground water, which causes subsidence. The Waterboard was being difficult about that”*(Participant 4, Personal Communication, 2020). This indicates that the worries that people have apply to various energy sources.

A third concern related to outcome favorability is the freedom of choice for heating consumers. Within the forgotten scenario document it is argued that the HT DH-system preferred by the municipality will most probably lead to a monopoly (Forgotten scenario, 2019). Participants expressed multiple times that this is not desirable. One participant expressed unease about the preferred scenario which had to do with *“the fact that you will depend on one supplier and the consumers don’t have freedom of choice. Personally I am not in favor of that”*. (Participant 3, Personal Communication, 2019). Another participant also viewed a DH-system with one supplier as unfavorable because *“Well, we will become dependent on one supplier and from what I’ve heard from Ypenburg, and that has been in the news, the prices there are high because there is no competition. I prefer to do as much as possible ourselves”* (Participant 4, Personal Communication, 2020). Participants perceive one supplier thus as unfavorable because they want to have a choice and because there are financial risks, which relates to the second category of favorability claims.

8.2.2.2 Outcome favorability: financial

During the participatory processes, on many occasions, questions were asked about who would be responsible for the costs. In addition to the just mentioned example of high costs for DH-systems with only one supplier, questions were asked about who will cover the costs when things go wrong

(Observation 9, 2019), whether there will be financial compensation for homeowners in Mariahoeve (Observation 10, 2019) and the division of costs between the municipality and homeowners (Observation 10, 2019). During the meeting in which participants formulated their own proposal for the municipality, an important motivation was because *“Socio-economic effects are important because Joe average will pay the price because he can’t invest”* (Observation 11, 2020). Another slightly less frequently heard argument is that the city is investing in the LdhM project and thereby redirects funds outside of The Hague while it could also be invested in the city (Observation 7, 2019). Within the Forgotten Scenario document it is argued, on the other hand, that a LT-scenario will be good for the local economy (Forgotten scenario, 2019). Here a heating solution with a positive financial impact is propagated as opposed to the plans of the municipality. The favorability of the outcome is thus directly related to how costs will be divided between various stakeholders in Mariahoeve.

8.2.2.3 Outcome fairness and outcome favorability

There seems to be a strong correlation between two justice perceptions about outcome fairness described in the forgotten scenario document and the subsequent perceptions of participants in Mariahoeve. The two claims in the forgotten scenario relate to the fact that one scenario has been “forgotten” by the municipality, which is very beneficial for the inhabitants: *“the most favorable scenario based on 90% renewable sources is not mentioned while it offers infinite carbon-free heat from local sources without a monopoly and of which inhabitants can become the co-owner”*. (Forgotten Scenario, 2019). In addition to the fact that this suggests that it is not fair to leave out the scenario from the analysis, *“This [alternative] provides opportunities for a just energy transition with direct citizen participation”* (Forgotten Scenario, 2019). These arguments have resonated with the participants, and have been voiced during many meetings (Observation 7, 9, 10, 11) and the alternative proposals and requests made by participants to the municipality.

The concerns in Mariahoeve about fair outcomes mostly relate to the *freedom of choice* and the influence of energy companies. Freedom of choice is important for a fair heating market, in the perception of participants. The sentiment is best illustrated by one participant who said: *“What I am afraid of is that the people in the neighborhood get the idea that another idea is imposed and they don’t have a choice”* (Participant 3, Personal Communication, 2019). This relates to a choice for participants in the frontrunner group about the future heating system in Mariahoeve, but also to the choice of heat supplier in the future. *“The inhabitants want that we have different heat sources so we’re not dependent one company or source. That you spread the risk. And that there is no monopoly”* (Participant 4, Personal Communication, 2020). Some participants expressed concerns related to the role of Eneco in relation to that *“At the municipality they say they haven’t made a decision, but at the province it seems they have pushed through a DH-system ... I have the feeling that Eneco, in between brackets a state-owned enterprise, in that way exercises influence”* (Participant 4, Personal Communication, 2020). This is considered as an unfair outcome by the participants and illustrates that there is a link between *outcome fairness* perceptions and how the *impartiality* of the municipality is seen. Some participants have the perception that large energy companies can produce heat for low prices and pay very limited energy taxes and can easily outcompete other local initiatives due to other fiscal advantages (Observation 8, 2019).

There exist concerns amongst the participants that due to the time regime related to becoming climate neutral in 2030 *“there is no room for the larger question, namely what are the effects on the social life, for the long term?”* (Participant 2, Personal Communication, 2020). The participants have formulated a proposal to the municipality, both the program team in Mariahoeve as well as the alderman van Tongeren, in which they summarize how outcome fairness in the heating transition can be still achieved. Within the proposal sent to the alderman, a group of participants suggests to include a LT and hybrid heating system in the assessment of the most feasible heating solution for

Mariahoeve to assure a fair outcome: *“Seen from this vision [described in the Climate Pact, Heating Manifesto and Coalition Agreement] we think it is important to compare the options for connection to a HT regional DH-system and a LT local DH system for Mariahoeve as equal alternatives”*. (Participant 2, Letter to Alderman, 2020). The participants have requested the alderman and program team to compare these two alternatives based on established research methodologies which include social and environmental indicators. After proposing this idea to the program team they also asked the alderman in a letter to *“implement a social impact assessment and an environmental impact assessment for both scenario’s and opportunities to link the energy transition to other challenges in the neighborhood in advance of decision-making about a DH-system in the neighborhood”* (Participant 2, Personal Communication, 2020). The motivation of this request is described in the to assure a fair outcome of the decision-making process. The participants write: *“central is these reports are the effects on the environment, ecology, health, wellbeing, culture and social cohesion in the neighborhood. In this way, the complete neighborhood can become part of the decision-making process and contribute to the further development of the strategy”* (Participant 2, Proposal to Program Team, 2020). The opposite outcome is also possible according to participants: *“The price of not investigating the potential social effects of both scenarios is a large risk for investors, the municipality and inhabitants”* (Participant 2, Letter Alderman, 2020)

8.2.3 Justice as recognition

Justice as recognition has the subcategories of *community of justice*, *justice as self-recognition*, and distribution of responsibilities. Justice claims have been made in all three categories.

8.2.3.1 Justice as recognition: Community of justice

The community of justice relates to who is perceived a claim holder, a stakeholder with legitimate concerns by the claim-addressees, the policymakers (Blok, 2019). Within the frontrunner group in Mariahoeve there are four types of local stakeholders recognized as claim holders. These are the homeowners, condominium associations, the housing associations and the companies and institutions, which can all participate in the frontrunner group. The participants however experience that not enough internal claim holders are at the table, and that external claim holders should be included in the process.

One motivation for the participants to draft their proposal to the alderman was that the group of internal claim holders represented in the frontrunner group is too limited (Observation 11, 2020). Within the interviews, this concern was expressed as well when participants mentioned that people that were involved with sustainability in the neighborhood for a long time are not involved in the frontrunner group (Participant 2, Personal Communication, 2020/Participant 1, Personal Communication, 2020). Some participants had a meeting with some of these people, who even asked *“Why don’t we know about these meetings? Why haven’t we been invited”* (Participant 3, Personal Communication, 2020).

The second category of claims relates to the involvement of external claim holders, especially tenants in housing associations and neighbors with a migration background. One of the interviewees is a tenant and he expressed *“Well, I have the feeling that, and I am a tenant, I have the feeling that home owners are more involved because the housing associations keep the inhabitants out of it ... I am in the tenant commission from the part where I live and we do not hear much about the energy transition.”* (Participant 4, Personal Communication, 2020). Although there is some understanding for this, because tenants do not have to make investments, other participants still insist that *“The rental inhabitant associations should be involved”* (Participant 3, Personal Communication, 2019), a concern also expressed during meetings of citizen initiatives in the neighborhood (Observation 7, 2019). The second concern about

external stakeholders relates to the inhabitants of the neighborhood. During the meeting of the district association Wijkberaad concerns were voiced that only Dutch people participate, while the district has a large group of inhabitants with a migration background (Observation 9, 2019).

These claims are related to how participants (claim-holders) are recognized by the initiators (claim-addressees). Participants explain that the attendants are invited by the district office (Stadsdeelkantoor) and mostly because they already were in contact with the municipality (Participant 1, 2 & 5, Personal Communication, 2020). The program manager also indicated that this is an issue stating *“I don't mind at all if there are a lot of opinions. That only gives more insight. It is more the question how you reach them”* (Program Manager Mariahoeve, 2020). This indicates that the recognition of claim holders is a point of attention.

8.2.3.2 Justice as recognition: Justice as Self-Recognition

Justice as self-recognition relates to whether participants view their own justice claims as legitimate (Blok, 2019). In the case of the participants in Mariahoeve this is embodied by the proposal that the participants formulated and sent to the program manager and alderman. One reason for their suggestion to include established methods like social impacts assessments in it, is because this tool can help to avoid social unrest by addressing lack of recognition (Observation 7, 2019).

The participants legitimize their concerns by referring to experts, established tools and similar situations. This is formulated in the letter sent to the alderman where participants state that *“Our argument for an inclusive and integral approach is supported by the advice from the College of National Advisers”* who state that *“integral choices can be made when they: address all aspects of the climate challenge, include other societal challenges, focus on existing qualities and identities, are based on long term costs and benefits”* (Participant 2, Letter Alderman, 2020). Another quote that clearly shows that participants view their own concerns as legitimate is when they use clear justice language in their letter to the alderman: *“We want to understand what justice means for is in this context. If we do not investigate this and can explain it to our neighbors, we risk to be faced with the law of the handicap of the head start: because we were ahead, the conception of justice is not made central. That can negatively affect us afterward: experience has shown that the inhabitants will pay the highest price for that”* (Participant 2, Personal Communication, 2020) Letter Alderman

Furthermore, participants refer to similar situations in The Hague during interviews and observations. They are in touch with other initiatives in different districts and hear on the one hand for example from the district Ypenburg that DH-systems can have high prices (Participant 4, Personal Communication, 2020), wonder why different ownership models apply to wind and solar energy than heating (Observation 7, 2019) or that other districts have similar concerns regarding the DH-systems (Participant 2, personal communication. 2020). On the other hand, they hear how in other districts local initiatives received large sums of money and different treatment from the municipality (Participant 3, personal communication, 2019). This is embodied in a sentence in the letter written to the program team where the participants state *“we are aware that in other parts of the city other pilots are organized, with different instruments. We are eager to have a dialogue about the optimal process in Mariahoeve and are happy exchange experiences with other neighborhoods and initiatives”* (Participant 2, Elaboration Proposal to Program Team, 2020)

8.3.2.3 Justice as recognition: Distribution of Responsibilities

Justice as recognition relates to who is responsible for assuring overall fair procedures as well as how participants perceive how the responsibilities should be divided (Blok, 2019). In terms of who is responsible in Mariahoeve, there is relative clarity. Although for some specific technical questions it is sometimes unclear for participants, who asked questions about who decides when there will be renovations (Observation 10, 2019) in general participants see the municipality as responsible

assuring fair procedures and outcomes in the heating transition because Mariahoeve is a district where the municipality is in the lead. However, there is nuance regarding how participants believe the responsibilities *should be* distributed. Here, two aspects are important, the role of the program manager and neighborhood manager and the role of citizens themselves.

The first concern relates to the fact that the assignments of both the program manager as well as the district manager include many other responsibilities in addition to this participation program. One participant explained in an interview *“the program manager cannot do not more than now within her assignment”* (Participant 2, personal communication, 2020). The same issue was mentioned during a meeting where participants mentioned that the district managers do not have the possibility to organize broad participation within the energy transition (Observation 11, 2020). This indicates that participants believe the managers that are responsible for the participation process in Mariahoeve do not have sufficient means available to live up to their expectations.

This is related to why participants believe inhabitants should take on part of the responsibility. In their proposal send to the program manager they request on the one hand that the municipality does further research, while *“Simultaneously we would like to take the initiative to organize a meeting about the energy from the inhabitant-side”* (Participant 2, Personal Communication, 2020). In that context one participant aims to establish an area-cooperative in collaboration with the organization *“De Coöperatieve Samenleving”* in which the aim is to unite inhabitants and *“to develop the capacity, legitimacy and power to sit at the table as an equal partner with the municipality and the private sector”* (Participant 2, Letter Alderman, 2020).

But instead of only participating in the participation processes offered by the municipality, participants indicated that they wanted to share in the responsibility and independently voice their concerns. *“You can sit and wait until you are asked to participate, but that is not how it usually works. You have to take your space and step forward”* *“We are going to create our own event with the media and alderman present”* (Participant 2, Personal Communication, 2020).

8.3 Concluding section

The aim of this chapter was to answer the following sub-question:

What are energy justice perceptions related to the heating policy formation in Mariahoeve?

Strikingly, where issues like the sustainability of waste heat, freedom of choice and preference of local heating sources are concerned, the same claims are made in both participation processes but also in the HEN and the institutional context (see **Appendix 18.6**). It is also clear that documents like the heating manifesto in the HWG and the Forgotten Scenario in the context of the frontrunner group are key documents that inform participants. As such, they influence justice perceptions in the context of Mariahoeve. Another interesting aspect is that processes outside the municipal boundaries – e.g. the investment in the LdhM by the national government and the procedures for the LdhM by the province - form an important source of justice concerns for local actors.

There were many justice claims about how participation will be *facilitated* in the next phase of the heating transition, especially for citizens. Many justice claims concern the lack of influence on decision-making due to the procedures and nature of decision-making of the Province in relation to the LdhM. Moreover, participants expressed many justice claims related to a lack of *consideration* and *voice*. However, especially in the frontrunner groups, some participants expressed also positive consideration in relation to specific actions, e.g. after dialogues with policymakers. *Information of Communication* is an issue for many participants. In terms of *internal process display*, justice claims

relate to the fact that it is not clear to participants how their feedback is incorporated in the decision-making process. Participants also expressed that it is not clear to them how existing policy documents are integrated in the formation of these plans. The participants also repeat justice claims in the frontrunner group and the HWG related to a lack of *internal communication*. Especially in relation to the frontrunner group, participants stress that external communication from the side of the municipality is problematic. Furthermore, participants are convinced that the municipality should formally address all inhabitants in Mariahoeve about the upcoming heating transition. *Accessibility* and *understandability* of especially technical information related to the future heating market and the effects of DH-systems are considered an important issue and is mostly perceived as insufficient. Lastly, the Municipality, Province, National Government and Eneco are not perceived to be *impartial* by many participants in all participation processes.

Participants expressed many justice concerns about the *outcome fairness* related to the future structure of the heating market in The Hague. This mostly relates to the role of the LdhM, the temperature of the heating distribution owned by Eneco, access to this distribution system for local heat sources and inclusion of social and environmental values is the assessment. Participants call for a transparent market with a level playing field and open access to the distribution system of Eneco to ensure a fair outcome. Some claim that the LdhM creates a situation where 'unsustainable' waste heat threatens to outcompete sustainable local alternatives. In Mariahoeve, participants perceive that the preferred scenario insufficiently focuses on the social impact of HT DH-systems in the district. Therefore, they have presented a proposal to achieve a fair and favorable outcome themselves to the program manager and alderman. Concerns about *outcome favorability* mostly relate to the same issues: diminished freedom of choice and unfair competition because of the LdhM are considered important. In addition, there are many justice claims in relation to how costs for housing renovation and infrastructure development will be divided and what the price of heating from DH-systems will be. Furthermore, there are concerns amongst participants about the reliability of heat from the LdhM and questions about the risks related to geothermal energy.

Participants have raised many concerns about the insufficient recognition of *internal claimholders*, especially citizens and citizen initiatives. In the frontrunner group this seems to be related to how the municipality *recognizes claimholders*, because people without connections to the municipality found it difficult to get access to the frontrunner group. In response to the perceived injustice, the participants in Mariahoeve have formulated a proposal to the program manager and alderman in which they, as a form of *self-recognition*, propose a way in which a just heating transition can be achieved. Many justice claims related to procedural justice and distributive justice are based on *similar situations* in The Hague, which helps participants in The Hague to *legitimize their concerns*. Regarding the *distribution of responsibilities* in the heating transition in Mariahoeve it is clear that participants believe that the municipality should be responsible for managing the process. This is expressed by most participants as well as housing associations and Eneco. However, some participants express that from their point of view the municipality is not taking enough responsibility for its leading role. In response, some participants see an opportunity to take up a part of the responsibility themselves.

Chapter 9 - Interactions between local stakeholders and policymakers

The overview of the energy justice perceptions provided in the previous chapter will be used to answer sub-question four: *What is the role of energy justice perceptions in the interactions between local stakeholders and civil servants in relation to heating-policy formation in Mariahoeve?* Because in the last chapter the energy justice claims for the participation processes have been detailed already, this chapter will specifically focus on the influence the justice claims had on the interactions between policymakers and participants. This chapter will first shortly recollect how the process of framing, overflowing, and backflowing between the formal and informal trajectories takes place as described by Pesch et al. (2017).

Subsequently, the interactions between policymakers and participants in the HWG and the frontrunner group will be assessed. The focus will be on phenomena resembling framing, overflowing or backflowing can be recognized and the role of justice perceptions expressed by policymakers and participants. Finally, the concluding section will summarize how justice perceptions influence these interactions in Mariahoeve and thereby provides an answer to the sub-question.

9.1 Overflowing and backflowing

To analyze how energy justice perceptions influence controversies related to new energy projects Pesch et al. (2017) developed a framework that differentiates between two trajectories in which the costs and benefits of a project are assessed: the formal and the informal trajectory. Within the *formal trajectory* standards, legal procedures and other tools are used to appraise the value of new projects. The *informal trajectory* relates to the advocacy for certain public values that are missing or underrepresented in the formal trajectory, often voiced in newly arising media debates, public discussions, demonstrations, and advocacy groups. The two trajectories have different *logics of value expression, starting points of energy justice* and often adhere to different *democratic principles* (Pesch et al, 2017). During the controversies of new energy projects the formal and informal trajectory two trajectories interact. The interactions between the frameworks can take the shape of “overflowing” and “backflowing”. In case new energy projects are assessed in the formal trajectory decision-makers may “frame” the desirability of the project based on their perceptions by providing arguments for or against the project. This framing can never cover all aspects of the project. In case certain aspects are insufficiently covered in the formal trajectory, the framing there can “flow over” and create a *reaction* in the informal trajectory. This reaction is *overflowing*. Contrary to that, backflowing occurs when the actions in the informal trajectory result in changes in the formal assessment trajectory, “*e.g. the decision to include new issues in an environmental impact assessment*” (Pesch, 2017, p826). In practice, backflowing only takes place *after* decisions have been made. In Mariahoeve, however, this process was and is still ongoing. Therefore it will be analyzed how policymakers anticipate on backflowing which provide an indication of how likely actual backflowing later will be.

Role justice perceptions in the participatory processes

Overflowing and backflowing are concepts that help to analyze the differences in energy justice perceptions between the formal and informal trajectories. These concepts can help to understand how and when tension arises related to the new heating infrastructure. The participation processes analyzed in the present study and the expressions of participants during participation events, however, are part of the formal decision-making trajectory because the invited-participation

procedures are implemented by the municipality of The Hague (Pesch et al. 2017). The input provided in these processes offers policymakers the opportunity to include the justice perceptions of local stakeholders in their decisions, thereby anticipating overflowing and pave the way for backflowing.

During the participation processes, various instances occurred where policymakers and participants had different justice perceptions. At times the arguments presented by policymakers resulted in strong reactions amongst the participants, which resembles overflowing. These instances will be analyzed. The differences in terms of justice perceptions between decision-makers and participants will be analyzed by looking how the justice perceptions and project appraisal of policymakers - one could see it as “internal” framing – affected the justice perceptions of participants – thereby causing “internal” overflowing in the participation process. This resembles the overflowing that takes place between the formal and the informal processes. The analysis is based on how this “internal” framing of the policymakers affected the participants in specific the participation processes, i.e. the HWG and the frontrunner group. For the HEN, unfortunately, insufficient data was available. In the analysis below the justice perceptions of the policymakers will be assessed, followed by an analysis of the reaction their perceptions had on the participants in the participation processes. Finally, the justice perceptions of participants that have the potential for backflowing and the reaction of policymakers are analyzed.

9.2 Framing and justice perceptions by policymakers

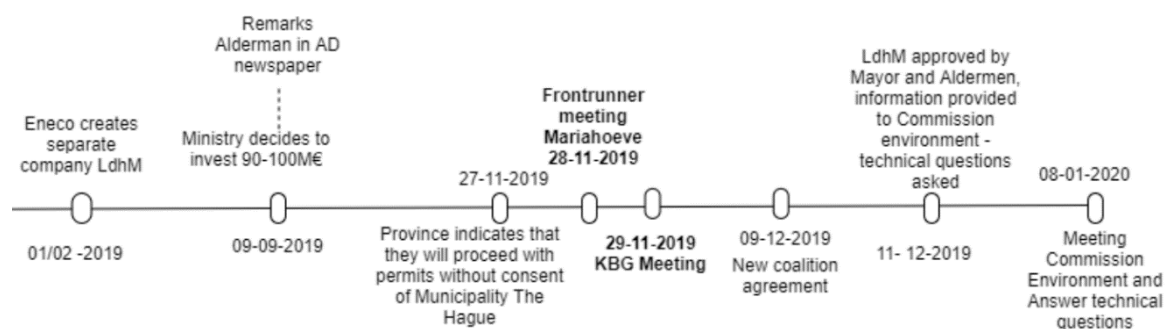


Figure 23. Timeline Decision-making procedure surrounding LdhM

The LdhM project important for the heating transition in Mariahoeve because it will probably be a dominant heat source for the envisioned DH-system (Programmaplan Energietransitie, 2018). Policymakers in The Hague see opportunities for the LdhM because it allows for redundancy of heat supply, a low price and it can function as a back-up heating source. Sustainable sources for collective heat are waste heat, geothermal, water, and sun (Warmteinitiatief, 2015). In 2019 this project gained momentum. On 9 September 2019, the minister of Economic Affairs and Environment announced that the Ministry would invest 90-100 million euros in the LdhM project. According to the minister, HT DH-systems, to which the LdhM would provide heat, offer a suitable sustainable heating solution for existing buildings. It helps to detach buildings from gas and improves the supply adequacy. Furthermore, in South-Holland there is an availability of waste heat and the LdhM is a cost-efficient project (Wiebes, 2019). GasUnie would step in as an independent system operator. When this was announced Alderman van Tongeren expressed in the AD newspaper: “We are satisfied that the Government is helping to make this possible and that there will be an independent system operator. These are large steps that make it possible to provide one out of five houses in The Hague in a sustainable way” (Loomans quoting van Tongeren, 2019). The Province of South Holland would coordinate the permit procedures for the pipeline. In late November it became clear that the Provincial Council did not

intend to wait for the formal approval to start this procedure from the municipality of The Hague, and wanted to proceed with starting the procedure already based on the assumption that The Hague would agree anyway (Van Tongeren, 2020). An overview of these events and important meetings in the HWG and frontrunner group meetings are presented in **Figure 23** and a more elaborate discussion of the events in **Appendix 16.5**.

9.3 Overflowing and justice perceptions in the heating working group

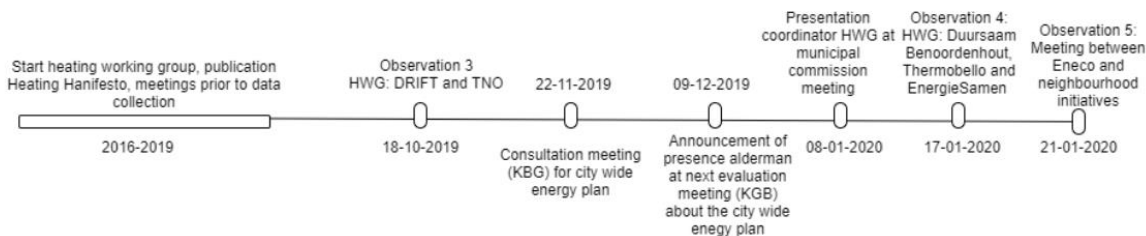


Figure 24. Timeline relevant events in the HWG

During the KGB meeting, the most pressing justice perceptions that circulated amongst the participants were communicated back to the municipality (see **Figure 24**). These claims made in reaction to the framing of the LdhM and the input from HWG members of the city-wide energy plan.

The positive expressions in the media of the alderman affected the procedural justice perceptions of participants. The fact that the alderman had expressed herself positively in the AD newspaper about the LdhM, without *informing* the participants, was a surprise for the participants. Participants experienced a lack of *communication of information* because they were not aware of the stance of the alderman towards this project and more generally the *lack of information* about developments surrounding the city-wide energy plan. Mariahoeve was explicitly mentioned during the KGB meeting as an illustrative example of the fact that only selective information was shared by the municipality, in the case of Mariahoeve the sole focus on HT-solutions, and not alternative LT options. The lack of information also affected perceptions about the *influence on decision-making* in terms of whether their input and feedback would be *considered*. Because the HWG-members had expressed themselves critically about the LdhM, already in its heating manifesto in 2017 but also on other occasions, and their concerns were not sufficiently addressed, participants wanted to know what room there would be for influence and participation of local stakeholders. Especially because the alderman already seemed to have made up her mind. This illustrates that a *lack of process display*, insight into how decisions were being made, affected the justice perceptions of participants because they did not understand how the alderman could be so positive while they had expressed themselves critically. Another issue related to *process display* that overflowed due to the alderman's remarks and the decision to proceed with the LdhM related to the use of relevant policy documents. Many like the heating manifesto and policy documents like the coalition agreements (2018/2019) and the climate pact stressed the precedence of local and sustainable sources.

The LdhM was perceived to have a negative impact on these local sources, but the infrastructure project appraisal in the formal trajectory from the National Government, the Province, and the municipality was still positive. In response, the HWG-members expressed that they did not see how the relevant policy documents had “disappeared” without being acted upon by decision-makers, just like their critical remarks. This illustrates they experienced that their input was not *considered* and that not displaying how these relevant documents were included in the decision-making process thus created tension during the interactions in the participation process based on the perceived lack of *process display* amongst the participants. In response, the participants proclaimed that participation

should be taken more seriously by the municipality through the usage and application of elements in relevant policy documents.

Cohen (1985) described that when participants have the feeling that their input has no impact the 'frustration effect' can occur. The justice perceptions expressed in the KBG meeting illustrate that the frustration effect was experienced by participants, which can be recognized in the perceptions related to the lack of *consideration, communication of information, and process display*. Another example was that in the coalition agreements (2018/2019) it was written that money would go to professionalize citizen initiatives and that the City-Wide Energy Plan would be written "together" with local stakeholders. The participants did not experience this sufficiently. Participants demanded other financial constructions should be designed to reduce the dependence of volunteers and tenants on the municipality. The financing mechanisms to support the citizen initiatives were also brought up by participants. They argue that they do not feel *recognized* as equal players because they depend on the municipality to develop their ideas. This while the municipality had promised to invest in the professionalization of citizen initiatives in the coalition agreements. As such, *outcome fairness* could not be achieved according to the participants.

Another issue related to outcome fairness that was triggered by the LdhM decision-making was the heating market design. The LdhM is expected to provide heat to HT-collective DH-systems. As such it affects the plans of local stakeholders in the HWG, which aim for LT heating solutions with insulation. Furthermore, the LdhM project is not local nor considered sustainable by the HWG. The decision of the alderman thus resulted in *unfair and unfavorable outcomes* in the perception of the HWG. This can be recognized in the demand from participants that fair heating prices should be guaranteed and the fact that it should be clarified what an open distribution network means. In the eyes of the HWG participants this is essential because they want to know whether they will be able to feed heat back to the DH-system if it is built. This is also unsure in the current scenario, but important for a *fair outcome*, because participants demanded from the municipality that citizen heating initiatives would be recognized as producers as well as consumers. This illustrates that there are concerns about how *responsibilities will be distributed* in the future heating market, and the wish of participants to share in these responsibilities. During the KBG and the presentation of the HWG coordinator during the municipal commission meeting, in which the concerns were voiced, the perceptions related to *information of communication, process display, consideration, outcome fairness, and outcome favorability* can thus be seen as overflowing.

It seems that the participants experienced a lack of *justice as recognition* as a result of the decision-making surrounding the LdhM. Their demands to 'take participation seriously' and put 'citizens more central' by sharing information, communicating about the influence of local stakeholders, the development of new financial support schemes, and assure fair prices and heating market design indicate that participants in the HWG did not feel sufficiently *recognized* and have questions about the way their input is integrated into the decisionmaking process.

Similar concerns were voiced during the meeting of the municipal Commission for Environment that discussed the LdhM, where the coordinator of the HWG gave a presentation in name of the workgroup. In this presentation concerns about the unclarity of citizens and the effects of the LdhM were stressed, which relates to the *understandability* of the information provided by the municipality, the *distribution of responsibilities* in the future heating market and the *outcome fairness* of the heating transition. In response to the developments surrounding the LdhM, the request was made to the municipality to investigate how sustainable waste heat is, to further research the complementarity of LT and HT systems, and create a level playing field for the participants of the HWG. These demands related to *outcome fairness and communication of*

information from the side of the municipality, in addition to the request for more dialogue between HWG members and the municipality and Eneco. The latter illustrates that the participants want to discuss who will be *responsible* for what in the future heating market and can also be seen as a response to the developments surrounding the LdhM.

Potential for backflowing in response to justice perceptions in the HWG

There were a few instances where the potential for backflowing arose in response to the overflowing and justice perceptions of the participants described in the previous section. First of all, when the City-Wide Energy Plan was published in April 2020, an experimentation arrangement for local heating cooperatives was included, in which explicit support and financing local heating cooperatives is expressed. Secondly, a revolving fund for high potential district initiatives will be established to guide initiatives to national sources of financing (van Tongeren, 2020c). This can be considered as a potential form of backflowing because the municipality hereby also considers citizens as potential heat providers, and tries to address the financial dependence on the municipality by guiding initiatives to other financing sources. However, a degree of dependence of course still remains. Thirdly, the City-Wide Energy Plan explicitly states that fair prices will be guaranteed in the future and will be tested by the Authority for Consumer and Market (ACM). Another indication that backflowing might take place was that two weeks after the coordinator of the HWG presented the justice concerns of the participants at the municipal commission meeting, a representative of Eneco answered the call for more dialogue with the citizen initiatives and joined for a special HWG meeting to speak with initiatives about a potential collaboration. There were considerable differences of opinion, especially about how *responsibilities will be distributed* and *outcome fairness* in relation to access to the DH-network of Eneco, unfair competition, and the sustainability of waste heat. Nevertheless, the fact that Eneco showed up and expresses a willingness to collaborate indicates that the calls and actions in the informal trajectory caused action in the formal trajectory. Another interesting development with the potential for backflowing was that after the KBG meeting were the participants voiced their concerns the alderman expressed the willingness to join during the next session to directly speak with the participants. The meeting did not take place yet, due to scheduling issues, but such a direct dialogue bears the potential to generate changes in the formal trajectory.

9.4 Framing and justice perceptions in the frontrunner group

In addition to the decision-making process surrounding the LdhM, the program manager in Mariahoeve shared the preferred scenario document with participants of the frontrunner group. The preferred scenario states that compared to other sustainable heating solutions a HT collective DH-system for most of the district is the cheapest solution, while it is more sustainable than gas (Voorkeursscenario, 2019).

9.5 Overflowing and justice perceptions in the frontrunner group



Figure 25. Timeline of events in relation to the frontrunner group in Mariahoeve

In Mariahoeve the justice perceptions of participants in response to the decision-making surrounding the LdhM and the preferred scenario became apparent in the communication they had with the

program manager, the frontrunner meeting, the dialogue with the program manager, and the proposal made by the participants.

In Mariahoeve overflowing became explicit after the preferred scenario document was shared by the program manager. Within this preferred scenario, the program manager indicated that a HT-DH system was the most suitable heating solution for Mariahoeve. Participants experienced a lack of *process display* which is illustrated by the fact that they were surprised about the content of the preferred scenario and wondered how relevant existing policy documents like the climate pact and elements of the coalition agreements were not reflected in it in terms of the absence of local heating sources and a focus on HT-DH systems. Within the informal trajectory the publication caused discussions and unease. This is illustrated by the reaction to the preferred scenario in form of a request for dialogue by certain participants. The Forgotten Scenario document got published shortly after the preferred scenario was shared, possibly even in response to it, and claimed that a LT-DH system with local heating sources was possible in Mariahoeve. This option was not *considered* in the preferred scenario of the municipality. These two documents generated discussions in the informal trajectory.

After the publication of the preferred scenario, the participants contacted the program manager to indicate they wanted to have a dialogue. The participants wanted to inquire what the social, technical, and environmental impact of the scenario was and wanted to know why local heat sources were lacking in the assessment in the preferred scenario. Their concerns about the *outcome fairness* and *outcome favorability* are illustrated by the request to include additional parameters to the assessment. Participants asked whether the Forgotten scenario could be included in the assessment anyway, and asked why the precedence of local heating sources was not reflected in the preferred scenario while this was mentioned in the Coalition Agreements. This indicates that the framing of priorities in policy documents about *outcome fairness* also had an impact on the frontrunner participant's justice perceptions. Another important reason the participants made this request was that, due to the remarks of the alderman and the decision of the national government to invest in the LdhM, some participants had the perception that their input was not sufficiently *considered* and that the municipality was not *impartial*. The alderman would already have made up her mind about HT-DH systems, because she already expressed herself positively about it. This is illustrated by the fact that some participants questioned whether their critical perspectives would be integrated into the decision-making process. Furthermore, they believed that there was a need for more *external communication* about the plans described in the preferred scenario, which from their point of view would have a significant and potentially negative influence on their district. Not informing the district inhabitants would be *unfair*, according to the participants. This shows that the publication of the preferred scenario, the investment decision, and the remarks of the alderman resulted in overflowing amongst participants. In response to these actions, some participants came up with the idea to start an area cooperative that would integrate the views and concerns of local stakeholders in the district to assure that the outcome of the heating transition in Mariahoeve would be environmentally and socially sound.

These *participants* presented their ideas during a general assembly of the Wijkberaad Mariahoeve. During this meeting the *other attendants* that watched the presentation proclaimed that the decision for the infrastructure had already been taken, that critical perspectives would not be considered and some wondered whether the municipality was *impartial*. This illustrates the perceived lack of *consideration* and *facilitation* of participation opportunities. Arguments voiced by these attendants were the expressions of the alderman in the newspaper and the investment decision of the national government. Here again, it is clear that there is a relation between the concerns of *consideration* and

impartiality and the framing in the formal trajectory. Other uncertainties discussed revolved around costs for homeowners and tenants and risks of dependence on the LdhM, and thus *outcome fairness* and *outcome favorability*.

During the frontrunner-meeting participants voiced their concerns again about *outcome fairness* and *favorability* with regard to the limits of the preferred scenario. Shortly before the frontrunner-meeting, the Province of South Holland had decided to start the permit procedure. Participants therefore asked what the role of the alderman had been in this regard. This request for *process display* illustrates that the actions of the Province affected the procedural justice perceptions of participants in the frontrunner group. The participants also wanted to know what kind of choice they would have. This freedom of choice, which can be linked to *outcome fairness*, appeared to be important for participants. The LdhM and the preferred scenario seemed to have a negative influence on it. The participants also wanted to know what the effects of the preferred scenario would be for homeowners. This request for *explanation* thus was a response to the fact that the preferred scenario and its consequences were not completely *understandable*. At the end of the meeting, however, participants also thanked the program manager for sharing the preferred scenario because this allowed them to have a discussion about it. After the meeting it turned out the participants had also opposed the involvement of external communication consultants that were introduced by the municipality to support in reaching out to more people in the district.

In the months after the meeting the participants wrote the proposal to analyze an additional scenario with local, LT hybrid DH-systems, in addition to the MT-DH-system proposed by the municipality, and requested to perform an SIA and EIA on both scenarios. Their proposal which aims to improve the *outcome fairness* and *outcome favorability* through broadening the assessment is also a way to be *recognized as claim holders* and a reaction to the Preferred Scenario and thereby constitutes overflowing. After the participants sent the proposal to the program manager, some participants were invited for a dialogue about this subject with the program manager. After a dialogue with the program manager, the participants seemed to experience more *consideration* of their views but nevertheless decided to send their proposal to the alderman. An important element in the proposal is the suggested area cooperative through which the participants want to change the *distribution of responsibilities* within the heating transition. In their perception, the program manager and the district manager do not have sufficient means to address the concerns of the participants and the complexity of the transition. The participants subsequently got invited for a dialogue with the alderman and the program manager of the energy transition team.

Potential for backflowing in Mariahoeve

Potential for backflowing is illustrated in Mariahoeve in one concrete way because the program manager decided to exclude the communication consultants from further involvement in Mariahoeve upon the request of the participants. Decisions made by the program manager were thus made based on the reaction in the participants regarding the *distribution of responsibilities*. Furthermore, there seems to be more potential for backflowing because the participants expressed that signs of *consideration* were present amongst the program manager and district manager, especially after dialogues had taken place. In personal communication amongst participants, it has been indicated that the program manager was willing to initiate a dialogue between the engineering company CMAG, who wrote the Forgotten Scenario document, with the technical consultants IF technology that support the municipality. This can be seen as a direct response of the program manager to concerns expressed in the informal trajectory. However, it remains uncertain if further backflowing will take place in Mariahoeve. This depends on decision-makers higher up in the municipal hierarchy, for example the alderman and the municipal council. The fact that some

participants have been invited to a dialogue with the director of the energy transition team and has a meeting with the alderman scheduled. This indicates there is potential for backflowing.

9.6 Concluding section

This chapter has aimed to answer the sub-question: *What is the role of energy justice perceptions in the interactions between local stakeholders and civil servants in relation to heating-policy formation in Mariahoeve?*

It appears that the *framing* of the LdhM by policymakers at the municipality and other government institutions has led to multiple instances of overflowing. For the HWG the arguments for the investment decision of the national government and the remarks of the alderman in the AD affected the justice perceptions of participants. For the frontrunner group, these latter two issues were also important, in addition to the arguments in favor of HT DH-systems in Mariahoeve stated in the preferred scenario. These frames expressed by the policymakers affected the justice perceptions of participants in a variety of ways through *overflowing*. In terms of procedural justice, the framing of the alderman, the investment decision of the national government and the decision to continue with the permit procedure decision by the Province negatively affected the perceptions about *consideration* of critical voices. Furthermore, participants perceived a lack of *process display* and *internal communication*. After the preferred scenario was shared participants experienced concerns about *outcome fairness* and *favorability*. The formulation of the proposal of the participants can be seen as a direct response to the sharing of the preferred scenario. The identification of multiple potential backflows is an interesting finding. In the HWG, some remarks of the participants that were made during the KBG meeting have been included in the draft city-wide energy plan that was published some months later. In the context of the frontrunner group the communication consultants were not included in the process after requests made by the participants. Furthermore, the willingness of the program manager, the program team energy transition and the alderman to engage in dialogues indicates further potential for backflowing. The proposal of the program manager to introduce the author of the forgotten scenario from CMAG to the technical consultants supporting the municipality indicates that further backflowing might take place.

Chapter 10 - Conclusion

This research project aimed to analyze how public participation and energy justice perceptions of local stakeholders influence the municipal decision-making process surrounding new infrastructure in the heating transition. After the climate agreement was signed in 2019 municipalities have been put in charge of leading this transition, which will include renovation of the complete buildings stock and a redesign of the heating market. This entails a fundamental change to how buildings are heated and has effects ‘behind the front door’. To retrofit the building stock of The Hague, the municipality has to collaborate with and integrate knowledge, concerns and investments of a broad range of local stakeholders including home owners, condominium associations, housing associations, companies, DSOs and other government institutions. Public participation processes are platforms through which local stakeholders can voice justice perceptions related to the heating transition, and are seen as an important means to achieve public support. To analyze public participation and energy justice, a single case study approach was selected. This choice was made because public participation and energy justice perceptions are strongly related to the local context. The case was the district Mariahoeve because it is one of the first districts of The Hague that will be made sustainable, because the municipality has a leading role in Mariahoeve, and because Mariahoeve has a participation process that is ongoing for a longer time. In the present research the type of public participation has been analyzed to provide a detailed analysis of three participation processes in which local stakeholders in Mariahoeve could participate. In the present study the energy justice perceptions of local stakeholders were analyzed in these processes to better understand how these perceptions influence decision-making processes. The following research question was used:

How do public participation and the energy justice perceptions of local stakeholders influence heating-policy formation related to new sustainable heating infrastructure in Mariahoeve, The Hague?

The research question was answered based on five sub-questions, which are addressed one-by-one.

10.1 Answers to the sub-questions

SQ1 : What are suitable categories to operationalize “Public Participation” and “Energy Justice”?

In order to analyze the public participation and energy justice perceptions it was necessary to operationalize these concepts. In order to do so an extensive literature review was conducted for public participation, whereas for energy justice the categories were mainly based on the framework developed by Blok (2018). With regard to public participation the aim of the literature review was to go beyond the over-simplified but widely known “Ladder of Participation” developed by Sherry Arnstein. Opposed to her normative description, descriptive categories have been developed that provide a more in-depth understanding of participation regarding the program administration, the purpose of participation, the stance of the organizer, the methods applied, the information shared and phase of the process. For energy justice, on the other hand, the descriptive framework of Blok (2018) allowed for the identification of energy justice perceptions based on the three tenets of energy justice: procedural justice, distributive justice and justice as recognition. These categories have been further specified into sub-categories and codes, which are visualized in **Appendix 1** and **Appendix 2**.

SQ2: How does the institutional context in The Hague affect public participation and energy justice perceptions in relation to the heating transition in Mariahoeve?

The second sub-question sought to understand the institutional context of the heating transition in The Hague and Mariahoeve. Data was acquired through interviews, participatory observation and an extensive document analysis. This research has shown that the institutional context affects public participation through the government policies of the municipality, the budget available, the management structure and the role of government institutions. The policy documents like The Hague Energy Agreement to make 25,000 buildings sustainable, the coalition documents, the program plan, the city-wide energy plan and other relevant policy documents provided a framework and a direction for the initiators of participation. In case of Mariahoeve, these documents have indicated that it is a district to start with the heating transition, but also that the municipality is in the lead. This research has also shown that these documents are also often referred to by participants within the participation processes. As such, the relevant policies and their content, especially the precedence of local sources and sustainable sources.

The budget available for the heating transition of the municipality proved to be relatively small in comparison to the scope of the investments required. Local policymakers indicated that insufficient funding is made available by the National Government to address the challenge and complexity of the heating transition. New funds that were expected to become available from the sale of Eneco stocks could offer relief.

With regard to the management structure, the analysis of the institutional context has shown that the heating transition entails internal challenges for the municipality, related to the fact that the program team existed parallel to already existing departments which could result in a lack of clarity regarding responsibilities. Furthermore, the heating transition is a long term process which required investments which provide long-term benefits, whereas the short term political mandates of the aldermen incentivizes short term results. For program managers in the districts that received assignments from the political management has proven essential with regard to the flexibility they have in the participation program. In Mariahoeve, the hierarchical nature of political-administrative organizations like the municipality reduces their capacity to adapt the participation programs autonomously.

The role of government institutions including the Province and the Ministry of Economic Affairs has proven to have a significant impact on the heating transition in Mariahoeve. They have directly influenced the development of new heating infrastructure in The Hague, such as the investment in the LdhM. In addition, they have played a role in the legislative process, such as through the Heating Law 2.0. In this way, government institutions influenced participation and justice perceptions of local stakeholders, especially by affecting the feasibility of local heating sources. There were concerns that this limits the influence that local stakeholders can have on the outcomes of the heating transition. The role of the National Government and the Province were also often referred to by participants when they expressed their justice perceptions. Because the Heating Law and the Environment and Planning Act were still in development, the municipality experienced difficulties because they were held responsible for providing solutions to a complex socio-technical puzzle for which they had not yet obtained all the necessary “tools”. This made it difficult for local policymakers to make promises and provide clarity to local stakeholders in participation processes.

Types of public participation in Mariahoeve

SQ3: In what sort of public participation processes can stakeholders in Mariahoeve partake and how is it organized?

The third sub-question addressed in **Chapter 7** analyzed what types of public participation processes were available for local stakeholders in Mariahoeve to participate in. The heating working group

(HWG), The Hague Energy Network (HEN) and frontrunner group Mariahoeve have been assessed based on their program administration, purpose, stance, methods, information and phase. The analysis showed that the municipality facilitates two types of participation processes. The HEN and Frontrunner group had more top-down characteristics with a purpose to *find preferences* and a stance to *inform* and *consult*. The HWG had more bottom-up characteristics with a purpose to *stimulate civil society* and a stance to *support independent community interests*. Other remarkable differences between the programs were the fact that the HWG and HEN were led by external consultants and had clear comprehensive plans, whereas the frontrunner group is led by a municipal employee and, as such, a plan could not be found. In sum, the municipality approached participation in the heating transition in Mariahoeve both top-down and bottom-up with a focus on sharing information and consulting. The HWG aimed to stimulate civil society in the district and approached the heating transition bottom-up, while the HEN and the frontrunner group approached it more top-down.

SQ4: What are energy justice perceptions of local stakeholders that are part of the public participation process?

This sub-question aimed to provide an overview of the justice perceptions of participants present in the processes related to the heating transition in Mariahoeve and The Hague. The justice perceptions have been organized based on the tenet of justice to which they belong.

Procedural justice

There were numerous justice concerns about how participation and *access to decision-making* will be *facilitated* in the implementation phase of the heating transition, especially for citizens. Local stakeholders fear that they will not be able to voice their concerns in the future due to this lack of *facilitation*. More generally, there were many justice claims about the lack of *influence on decision-making* by stakeholders in Mariahoeve due to the procedures and decision-making of the Province and National Government in relation to the LdhM. In relation to this, participants expressed many justice concerns with a lack of *consideration* and *voice*, both in the HWG as well as in the context of the frontrunner group, which illustrated that they do not perceive that critical views regarding the LdhM are integrated in the decision-making process. However, especially in the frontrunner groups, some participants expressed also positive *consideration* in relation to specific actions, especially after dialogues with policymakers.

Information of Communication was one of the most important issues for many participants. In terms of *internal process display* local stakeholders indicated that it was not clear to participants how their feedback is incorporated in the decision-making process. Participants also expressed that it is not clear to them how the existing relevant policy documents are integrated in the formation of the district and citywide transition plans. Furthermore, the participants also expressed justice claims in the frontrunner group and the HWG that related to a lack of *internal communication*, e.g. regarding the positive remarks made by the alderman about the LdhM and the perceived incomplete assessment of heating solutions in Mariahoeve. Moreover, participants stress that *external communication* is problematic from the side of the municipality. Consequentially, there are groups in the neighborhood that wanted to be involved but could not participate. Furthermore, participants were convinced that the municipality should formally address all inhabitants in Mariahoeve about the upcoming heating transition. *Accessibility* and *understandability* of especially technical information related to the future heating market and the effects of DH-systems are an important issue and is mostly perceived as insufficient by local stakeholders. Internal communication and process display are also considered insufficient in the HWG. A final issue was that the municipality

was not perceived to be *impartial* by some. This related to communication of information, influence on decision-making and the procedures surrounding the LdhM. There were also concerns about the impartiality of Eneco, the province and the national government in relation to the LdhM.

Distributive Justice claims

Participants expressed many justice concerns about the *outcome fairness* related to the future structure of the heating market in The Hague. This mostly related to the role of the LdhM, the temperature of the heating distribution owned by Eneco and access to this distribution system for local heat sources. The LdhM was perceived to create unfair competition and reduce the freedom of choice of participants. Participants therefore call for a transparent market with a level playing field and open access to the distribution system of Eneco to assure a *fair outcome*. Another recurring issue is that waste heat is not perceived as sustainable by some, who claim that the LdhM creates a situation where 'unsustainable' waste heat threatens to outcompete sustainable local alternatives. Within Mariahoeve participants perceived the lacking environmental and social values in the preferred scenario a barrier to a *fair outcome*. Therefore, they have presented a proposal to achieve a fair and favorable outcome themselves to both the program manager and the alderman. Concerns about *outcome favorability* mostly related to the same issues: diminished freedom of choice and unfair competition because of the LdhM. In addition, there were many justice claims concerning how costs for housing renovation and infrastructure development will be divided and what the price of heating from DH-systems will be in the future. Finally, there were concerns about the reliability of heat from the LdhM and questions about the risks related to geothermal energy.

Justice as recognition

Participants have raised many concerns about the insufficient recognition of *internal claimholders*, especially citizens and citizen initiatives. In relation to the frontrunner group this seems to be related to the way in which the municipality *recognizes claimholders*. In response to perceived injustice the participants in Mariahoeve have formulated a proposal to the program manager and alderman in which they, as a form of *self-recognition*, propose a way in which more local stakeholders can be involved. Many justice perceptions related to procedural justice and distributive justice are based on *similar situations* in other neighborhoods in The Hague. Participants also often referred to relevant policy documents like the Coalition Agreements.

Regarding the *distribution of responsibilities* in the heating transition in Mariahoeve it is clear that participants believe that the municipality should be responsible for managing the process. However, some participants expressed that the municipality is not yet living up to its responsibility enough. In response, some participants therefore saw an opportunity to take up part of the responsibility by themselves.

Subjects like the *sustainability of waste heat, freedom of choice and precedence of local heating sources* are important subjects that affected energy justice perceptions in all participation processes and the institutional context. These issues affected perceptions about *outcome fairness* and *favorability*. Documents like the Heating Manifesto in the HWG and the Forgotten Scenario for the frontrunner group were key documents that influence justice perceptions in the context of Mariahoeve. Moreover, processes outside of the municipal control, e.g. the investment in the LdhM by the Ministry of Economic Affairs and the procedures for the LdhM by the province, directly affected justice perceptions of local stakeholders in Mariahoeve. Municipal policymakers were therefore confronted with justice perceptions in Mariahoeve that were outside of their control.

SQ5: What is the role of energy justice perceptions in the interactions between local stakeholders and policymakers in relation to heating-policy formation in Mariahoeve?

The aim of this chapter was to analyze how energy justice perceptions influenced the interactions between policymakers and participants. Qualitative data collection methods were used to gather the data. This included only an analysis of the interactions in the HWG and the frontrunner group due to limited data collection for the HEN. The analysis focused on how the *framing* by policymakers affected the perceptions of participants in a form of ‘internal’ *overflowing*. It also showed how, in some instances, the concerns and justice perceptions that were voiced by participants during this overflowing showed potential or resulted in changes in the decision-making process, i.e. resembling *backflowing*. The HWG and frontrunner group were analyzed separately.

Framing by policymakers

The positive project appraisal by the minister of Economic Affairs, the Alderman Energy Transition in The Hague was mostly based on the importance of having redundancy, security of supply, low cost and sustainable heat for The Hague. The perception of the Province that the municipality of The Hague would vote in favour of the LdhM project resulted in their decision to start the permit procedure for the LdhM without formal consent. In Mariahoeve, the project manager framed a collective HT DH-system as a cheap and sustainable alternative to other heating solutions that were not gas. These perceptions resulted in a reaction amongst participants in the HWG and the frontrunner group.

The Hague Heating Working Group (HWG)

The positive appraisal and framing of the LdhM by policymakers surprised the participants, who had expressed criticism of it, and generated a reaction which resembled *overflowing*. A combination of lacking *internal communication*, *process display* and *consideration* in the perception of the participants fueled tensions during the interactions. The *frustration effect* seemed to have occurred because participants neither felt that their input was considered nor understood how relevant policy documents stressing *local precedence* and *sustainable heat sources* were included in the decision-making process surrounding the LdhM. This project could have an *unfair* and *unfavorable outcome* because, in this instance, an *external* and *HT infrastructure project* would negatively affect the business cases of *local* and *LT heating sources*, exactly those initiatives the participants of the HWG were involved in. The questions about *recognition* of citizen initiatives as heat providers, *fair heating prices* and the possibility to feed-back heat to the distribution system of Eneco illustrated the concerns about a fair outcome. The coordinator of the HWG voiced these concerns again during the Municipal Commission Meeting in which the request was made for more intensive dialogue with the municipality, Eneco and the participants. This illustrates that participants wanted their concerns to be *recognized* by these stakeholders. Some of the justice concerns of participants seem to have been included in the decision-making process, which resembles *backflowing*. Within the city-wide energy plan that was published, financial support and experimentation with local heating cooperatives was included. Furthermore, a revolving fund was announced to guide local initiatives to national funding sources and fair prices would be assured by the Authority for Consumers and Market (ACM). Finally, Eneco responded to the demands for more dialogue made during the KBG and Municipal Commission Meeting, by visited the HWG for a meeting and expressed their willingness to collaborate. Although this does not mean that actual collaboration will happen, the response to the call for more dialogue seems to have been answered. Finally, the Alderman expressed the willingness to engage in a direct dialogue with the participants. It remains to be seen whether the dialogue will take place, but such a dialogue could potentially result in more backflowing.

Frontrunner group Mariahoeve

The 'internal' *overflowing* in Mariahoeve became explicit after the program manager shared the preferred scenario in advance of the frontrunner group meeting. The fact that this scenario included a clear preference for a HT-DH system in Mariahoeve surprised the participants. Participants experienced a lack of *process display* and did not understand how the municipality arrived at their preferred scenario. The publication of the Forgotten Scenario document fueled the already existing wish amongst participants about the inclusion of local LT heating sources and social aspects to the assessment. According to the participants, leaving this heating solution out of the assessment could result in an *unfair and unfavorable outcome*. Furthermore, the remarks of the alderman in the newspaper AD and the decision of the Ministry of Economic Affairs to invest in the LdhM seemed to create the experience amongst participants that their critical voices would not be *considered* and the municipality was not *impartial*. Additionally, some participants considered it unfair that there was insufficient *external communication* about the plans of the municipality and the possibility for local stakeholders in Mariahoeve to participate in the frontrunner group.

In response, the participants formulated their own plan to address the lack of social, environmental and participatory aspects in the frontrunner group and the preferred scenario by writing a proposal for the preferred scenario and the establishment of an area cooperative. This resembles *overflowing* in response to the framing by the program manager, the Alderman and the Ministry of Economic Affairs. Shortly before the frontrunner meeting, the Province decided to start the permit procedure for the LdhM, which further fuelled experiences of a lack of *consideration* and *impartiality*. The participants voiced the importance of freedom of choice for *outcome fairness* and *favorability* and asked what the effects of the preferred scenario would be for home owners, which illustrates a need for more *understandable* information. They also expressed the wish that the program manager would not involve an external communication consultant to involve more citizens in Mariahoeve with the heating transition, but to rather do it themselves. The participants, however, also thanked the program manager for sharing the preferred scenario, a sign of good *internal communication*. In their proposal the participants requested that a LT-local sources scenario would be added to the assessment for Mariahoeve and to perform an EIA and SIA for both scenarios. In this way, the participants argued, *outcome fairness* could be assured and the local stakeholders in Mariahoeve would be *recognized as claimholders*. An important element of the proposal is the suggested establishment of an area cooperative, that could collaborate with the municipality to involve citizens in Mariahoeve in the heating transition. This illustrates the wish of participants to share in the *distribution of responsibilities* in the heating transition. The participants sent their proposal first to the program manager, and after a dialogue with the program manager sent it to the Alderman.

In response to the justice perceptions of the participants the program manager decided not to involve the communication consultants upon request of participants. Furthermore, the program manager indicated that the author of the Forgotten scenario document could be introduced to the technical consultants that support the municipality. This illustrates that there is potential for backflowing. A final other event that could potentially lead to backflowing is that some participants were invited to a conversation with the program team energy transition and the Alderman. However, it remains uncertain if further backflowing will take place in Mariahoeve. This depends on decision-makers higher up in the municipal hierarchy, for example the alderman and the municipal council.

10.2 Answer to the main research question

How do public participation and the energy justice perceptions of local stakeholders influence heating-policy formation related to new sustainable heating infrastructure in Mariahoeve, The Hague?

Participation and justice perceptions in Mariahoeve had limited influence on policy-making surrounding sustainable heating infrastructure. This research has shown that the institutional context is equally important to understand how the heating transition is taking shape. The present study has aimed to generate insights about the social and political processes in relation to the implementation of heating infrastructure. During the research it has become clear that the laws, guidelines and processes governing the heating transition and heating infrastructure development at the local level are still in development. The fact that legislation was still being developed while the municipalities needed to act created complex situations for the municipality.

With regard to energy justice, this research has shown that energy justice perceptions influence the interactions between local stakeholders and local policymakers. Participation processes like the HEN, HWG and frontrunner group allow participants in Mariahoeve to have an indirect influence on policymaking regarding the development of new heating infrastructure. Although the municipality has had the stance to *decide together* to some extent, in Mariahoeve the municipal council remains the final authority where new heating infrastructure is concerned. The present study has also shown that the municipality of The Hague works both top-down and bottom-up on a city-wide level and at the district level, such as in Mariahoeve. Where the HWG supports citizen initiatives to professionalize and learn, HEN and the frontrunner groups mostly have a consulting and informing function without substantial participation.

By analyzing the institutional context and policy documents this research project analyzed particular energy justice as referred to by La-Belle (2017). The thesis has shown that justice perceptions from the past, e.g. in the Heating Manifesto, affect the justice perceptions in the present. This stresses the importance for policymakers to understand justice perceptions from the past to address the concerns in the present. Especially justice perceptions related to *communication of information*, *outcome fairness* and *favorability* and *distribution of responsibilities*. The municipality could focus on these dimensions of energy justice to facilitate a more just heating transition. Hereby, the municipality can still improve its *internal and external communication* and improve the *process display* so participants feel that they are kept up to date and know what happens with their input. Moreover, a need exists for more external communication within Mariahoeve because the frontrunner group addresses only a fraction of the residents. The two essential elements for *justice as recognition* as defined by Bailey & Darkal (2018), the awareness of the injustice and the articulation of the concerns, are present in the frontrunner group and the HWG. This however does not result in perceptions of a just participation process.

Policymakers in The Hague do try to involve local stakeholders and aim to create transparent participation processes. The potential for backflowing is illustrated by the willingness of the program manager and the alderman to listen to the concerns of participants. However, the lack of regulation and effects of large infrastructure projects like the LdhM seem to limit the capacity of local policymakers to effectively address all justice concerns and the influence participants can exercise through public participation.

10.3 Discussion of public participation categories

The present study has aimed to elaborate on the work of Wilcox (1994). The categories developed in the theoretical framework proved useful to analyze dimensions of participation. Differentiating

between the purpose and the stance of participation proved valuable to better understand and categorize the HEN, HWG and frontrunner group. Nevertheless, during the research more material was found that could further improve the categorization. The framework presented on the website of the National Climate Agreement included a differentiation between *policy participation* and *project participation* that is relevant for this framework (Handreiking Participatie, 2019) – see **Figure 19** and **20** in **section 6.5.1** for details. Basically, all the participation processes discussed in the present study fall under the *policy participation* category. It is interesting to see that although this type of participation supposedly allows more room for changes than project participation, this does not automatically mean that the process will be experienced as such or that changes will be implemented (Handreiking Participatie, 2019). At the same time, there already seems to be a more established framework of guidance for *project participation*. This might in part explain the difficulties that the program manager experienced in Mariahoeve, since there are unclear guidelines as to how policy participation processes should be structured, whereas this is clear for wind and solar energy projects. Within the HEN, HWG, and the frontrunner group, the discussions between local stakeholders and the local government often related to if and how *future project participation* will take place, for example, if home-owners will have a choice for heat sources, who will own the infrastructure and what effects it will have on development of local heat sources. The dimensions of policy and project participation could therefore be integrated in the framework because it has the potential to enrich the analysis.

In some instances, it seemed that there was a mismatch between how participants perceived the *purpose* of public participation programs and the *stance* of the initiator. The purpose of the frontrunner group, the HEN and the dialogues about the city-wide energy plan were to build legitimacy, inform participants and integrate local knowledge. However, in the case of the HWG and the frontrunner groups the participants expected that participation would mainly be related to gather *representative input* and to *support civil society*. This became clear when the participants demanded different financial structures, more responsibilities in the decision-making process and additional clarity as to how much influence they would have. They were unsatisfied with the stance of *consultation* and *information* that the municipality was taking. This proves that clear communication about the *purpose* and the *stance* is important when organizing public participation programs. Furthermore, the present study showed that public participation programs can be a platform for participants to voice their justice perceptions. The *influence on the decision-making process* – part of procedural justice - is important for participants. This was measured by the *stance* category for public participation. This indicates that although the Ladder of Participation of Arnstein (1969) is oversimplified, there is still value in its application.

During this research it has become clear that there are strong links between energy justice and participation, that have not been sufficiently covered in the present study. For example, participants often voiced their perceptions regarding the type and the channels through which *information* was shared, the *methods* applied and the *purpose* of participation. This indicates that the way in which a participation process is designed has an impact on justice perceptions. If the scope of this research would have been broader it would have been interesting to investigate how specific dimensions of public participation processes affect energy justice and which tenets of justice are involved.

10.4 Discussion of energy justice perceptions

Overall, the three tenets of energy justice have supported the analysis of the experience and perceptions of local stakeholders in Mariahoeve. They did sometimes relate strongly to each other. This research has shown that *communication of information* is very important in Mariahoeve.

Moreover, there seems to be a link between how much information is being communicated and the extent to which participants feel *recognized*, whether their input is *considered* and their perception about *impartiality*. The statement made by La-Belle (2017) that context is important for individual justice perception was verified in the present study. Local policy documents from the past are important for the justice perceptions of participants in public participation in the present, just like the regional developments surrounding the LdhM. The framework of overflowing and backflowing developed by Pesch (2017) has helped to link the framing in the formal trajectory to energy justice claims. The interlinkages between energy justice tenets could potentially be further analyzed by focusing on how framing simultaneously affects multiple energy justice tenets, and thus links them together, through overflowing.

The energy justice perceptions in this thesis were not only shaped by the participation program from the municipality. The type of infrastructure (HT or LT DH-system) has a large influence, just like government bodies like the Ministry of Economic Affairs, the Province and the National Government. This indicates that the institutional context is essential in order to fully grasp what influences the energy justice perceptions in relation to heating infrastructure and policymaking on the local level, and thereby how the heating transition is shaped. Although municipalities are final responsible for interactions with local stakeholders and tailor made solutions (or 'Maatwerk' in dutch policymaker jargon), in practice it seems that the national government is steering the process and in the case of Mariahoeve made the work of local policymakers more difficult.

In June 2020 the Minister of Economic Affairs published a first draft of the new Heating Law. The draft ignited a societal debate in which critics from within the energy sector argued that new players on the heating market do not get a serious chance to develop new sources and compete with large energy companies like Eneco (Van der Walle, 2020). A large consortium of all dutch distribution system operators (DSOs), housing associations, environmental associations, and other (heating) industry stakeholders expressed their concerns about the new draft in a national 'Manifesto Heatingcoalition' (Manifest Warmtecoalitie; translation from the author). They urge the national government not to choose for a one-size fits all approach. Three aspects are under-represented. First of all, a fair price for heating must be assured for residents. Secondly, heating cooperatives and sustainable innovation must be supported. Finally, the knowledge, experience and practical implementation capacities of public-utility companies like DSOs must be better harnessed, especially in relation to DH-systems (Warmtecoalitie, 2020).

This relates directly to some of the justice perceptions about outcome fairness and favorability of the local stakeholders in Mariahoeve, as expressed in this study. This indicates that the justice perceptions present in Mariahoeve might resonate within a larger group of societal stakeholders. It also indicates that the ethical implications of the current direction of the heating transition in Mariahoeve might also be applicable elsewhere in the Netherlands.

10.5 Discussion Public Participation and Energy justice in Mariahoeve

When decision-makers want to find out how a community assesses an energy project they often start public participation processes. The 'public' that is a part of public participation processes, such as those in the frontrunner group, the HWG and the HEN, is what Pesch (2019) considers a *local* public with specific-preferences, a group that is separated from the *wider* public with general interests. In reality, however, it is often the case that there is no pre-existing public but rather a *variety of publics* with different views. In response to projects *new* groups of actors are formed that comprise a public.

In the case of the frontrunner group or the HWG only a select group of members of the 'public' are selected. According to Pesch (2019) there are three issues related to such a selection. First of all, the selection is based on voluntary participation based on an open invitation, although this might not actually represent the complete *local* public but only a part of it. Furthermore, these groups have specific group dynamics which reduces the validity of their assessment. Lastly, the assessment made by such groups is not static but changes over time.

This is important for decision-makers to take this into account when engaging in participation processes, also because the invited nature of such programs suggests that there are also 'uninvited' groups. In case of Mariahoeve the local public seems to be defined as building owners within the districts. The frontrunner group includes a sample of that specific local public. However, following the line of reasoning of Pesch (2019) their representativeness might be low, and the specific group dynamics might reduce the validity of their assessment since their views are constantly changing. Their assessment can thus not automatically be assumed to be the same as the public preference. The uninvited public in Mariahoeve mostly consists of tenants or other organizations in the district who are not part of the process.

Pesch (2019) states that conflicting views should be accepted and that methods should be applied that allow participation of different publics. This is in line with Cuppen (2018), who argues that invited participation is not suitable to include the varying views of a community. Instead of focusing on invited participation, more attention should be paid to *social conflict* and *self-organized* participation (Cuppen, 2018). Social conflict strategic behavior should not be avoided, but rather be seen as an appraisal of the project. Social conflict can be seen as the result of overflowing in response to institutional decisions that have not included alternative project appraisals and critical views (Cuppen, 2018). In Mariahoeve, the fact that participants organized themselves outside the frontrunner group and formulated a proposal could be seen as a form of social conflict and their proposal as a clear project appraisal. In the HWG the same happened during the KBG meeting. Cuppen (2018) states that some form of backflowing must take place to use the values expressed in social conflict, in which "boundary workers" translate the input from social conflict to organizational decision-making. In the present study, the roles of boundary workers are fulfilled by the coordinator of the HWG and one participant in the frontrunner group, who translate the concerns of stakeholders into language that seems to resonate in the formal decision-making process. This type of boundary work is recognized and classified by, amongst others, Hoppe (2009).

Governing overflowing and responsible decision-making

In another paper, Pesch et al. (2020) includes eight ways through which the effectiveness of participation can be improved and to stimulate responsible decision-making. A symmetrical selection of actors from the institutional, technical and local community should convene to discuss the technological developments. This seems to be present in Mariahoeve. Secondly, the approach should include the invitation of case-specific local stakeholders that will be affected by the energy project, and be flexible with including new actors. This also seems to be present in Mariahoeve. Thirdly, the local public must have a form of political leverage and the results should genuinely be taken into account. This seems to be lacking in the case of Mariahoeve. Fourthly, Pesch et al. (2020) asserts that there should be a level-playing field in that there is no party that determines the 'rules of the game' or that prescribes which views are legitimate. The fifth and sixth points relate to the fact that actors should collaboratively decide on the rules of the game and that the validity of claims made by local stakeholders should only be checked after they are uttered, not before. In this way, a level playing field can be guaranteed (Pesch et al., 2020). Finally, the group dynamics should be monitored, because of its influence on the validity of the public, and the initiator must check whether the group

remains representative and tailored to the local context. Surveys can help to identify this by gathering input from the 'silent majority' (Pesch et al. 2020). Cuppen (2018), however, stresses that surveys are only valid for a limited period of time due to the dynamic nature and changing perceptions of the public. She recommends the collection of longitudinal data to help better understand the dynamic nature of project appraisal by communities. Furthermore, instead of focusing on creating a representative public, which is very difficult, discourse analysis can be used to capture different narratives in communities. This could be considered by local policymakers.

With regard to the level-playing field and monitoring of group dynamics mentioned by Pesch et al. (2020) it remains unclear in both the frontrunner group and the HWG whether this is present sufficiently. This could explain why the overflowing and tension has been present in both participation programs. According to the participants there is a lack of clarity about the influence they can have (HWG) and the proposal in relation to the frontrunner group aims to achieve a more level playing field for local stakeholders. At the same time the municipality seems to be open to new perspectives and adjustments to the participation process. Integration of the suggestions made by Cuppen (2018) and Pesch et al. (2020) could aid the municipality in governing the overflowing in Mariahoeve caused by decisions made in the heating transition. The developments throughout the rest of 2020 will be essential to assess whether the participation in Mariahoeve will be effective. Based on the conclusion and the discussion, some policy recommendations have been formulated.

10.6 Limitations and future research

The research in the present study project was based on a single embedded revelatory case study. The embeddedness of the case study entails that there are multiple units of analysis, in this case energy justice and public participation. On the one hand this allows the researcher to gain more insight into the case, but on the other hand this makes the research broad and might have caused insufficient focus and/or incomplete coverage of certain aspects. Only focusing on one unit of analysis can reduce the insight of the study (Yin, 1994). Nevertheless, the present study has been an exercise to bridge two closely-related fields of research, public participation and energy justice, and has shown that within The Hague links do exist between how public participation has been organized and how energy justice perceptions of participants evolve.

Revelatory case studies, such as the present study and the large-scale development of DH-systems in the Netherlands in general, are concerned with phenomena that previously used to be difficult for the scientific community to investigate (Yin, 1994). Consequently, the present study has aimed to tailor other existing approaches to fit the case study and develop insights into the dynamics of this unfolding transition. A disadvantage of studying a 'live' transition is that there were constantly new developments, publications and political decisions that had to be integrated into the study. Due to the fast developments and the number of actors involved in the heating transition there is a risk that the data collection has been incomplete.

The research methods relied on qualitative data collection. These tools have the advantage of providing in-depth insight into the case and the perceptions of actors, with good data validity. However, there are also disadvantages. For example, interviews may be good for acquiring in-depth knowledge but are not good at proving links between variables (Corbetta, 2003). It was indeed a challenge to code data and prove anything more than correlation. Additionally, there is a risk of overidentification of the researcher with the subjects of study, which colour the interpretation of the observer. Objectivity is therefore an illusion: every descriptive observation will still be coloured by the culture/personality of the researcher (Corbetta, 2003). Therefore, the results of this study are

fairly subjective, even though efforts have been made to apply the chosen methods consistently and report clearly. In relation to the document analysis in the present study there is a risk that the data provided has been incomplete, or that the representation of reality in the documents does not match the reality on the ground (Corbetta, 2011). The results of the present study project are, due to its qualitative nature, non-generalizable and non-standardized (Corbetta, 2003).

Finally, the many steps of analysis and the richness of information made it challenging to convey a key message or conclusion. Rather, there are multiple conclusions which have been captured in the concluding sections of each chapter. In future research, it would be easier to define a narrower scope, such as by focusing on only one participation program, or fewer aspects of the institutional context.

Validity, reliability and external validity

Due to the wide variety of qualitative studies there is no universal method for assessing qualitative studies (Leung, 2015). When assessing qualitative research, one school of thought often focusses on the rigor of the methodology, while the other stresses the interpretation of results. In practice, both elements are important. The validity of the present study relates to whether the right research question was formulated, the correct research approach has been designed, the right sampling strategy applied, data analysis performed and conclusions derived based on the research context (Leung, 2015).

Within the present study, the following has been done to create strong validity: triangulation of data sources, a theory-based code book that guided the data analysis, clear storage and coding of the data and respondent verification of interviews. The sampling strategy, however, cannot be considered very strong. The stakeholders interviewed during this research, and the participants that joined in the process, are not fully representative for the inhabitants of Mariahoeve of The Hague, but rather represent a minority of involved citizens. As such, the energy justice perceptions of the participants observed and interviewed cannot be generalized to the rest of the neighbourhood. However, the theoretical insights from energy justice and participation might be valuable to other districts in the Netherlands with municipal plans for DH-systems and ongoing public participation programs, e.g. in the Program Gas-Free Neighborhoods, surrounding the development of the plans in the context of the climate agreement. In qualitative research, exact replicability is difficult to achieve, therefore, consistency is of paramount importance (Leung, 2015). To increase the reliability of the thesis, the scope and analysis process have been extensively described, the code books have been applied to structure the analysis and tables have been provided to create a clear overview.

Furthermore, data triangulation has been applied. Generalizability is not the aim of qualitative research, because it focusses on interpreting a phenomenon in a specific context. The theoretical framework, however, is generalizable. Moreover, the methodology could be re-applied in other research projects and some results of the HWG and HEN that have been analyzed are generalizable for the Municipality of The Hague, and thus relevant outside the scope of Mariahoeve. The same applies for the institutional context analysis.

Issues with data collection

Initially the aim was to gather more input from a more varied group of stakeholders. This proved very difficult because of the political sensitivity of the subject, and many stakeholders involved concerned employees of organizations that did not feel they had sufficient authority to discuss it. In other instances, the stress of work was mentioned as a reason for not providing introductions or references to colleagues that could perhaps have given the interview. The data collection was further

disturbed by the outbreak of the Covid-19 pandemic, due to which at least five events could not be attended. Because the transition is at a critical turning point it was not always easy to gather data. The researcher was included on internal communication lists, was welcome at the frontrunner meetings and focus groups, and would receive some information if actively pursued. However, in some instances, invitations from the municipality to join internal meetings about a participation-strategy were withdrawn without notice and suggestions for introductions to other municipal policy-makers were not followed up on. Furthermore, direct contact has taken place with IF Technology (the technical consultant supporting the municipality), Eneco representatives, the three largest housing associations (Haagwonen, Staedion, Vestia), the communication consultant that was rejected in Mariahoeve and policymakers in the district-office. However, these stakeholders were not eager to participate in interviews. Also, no stakeholders in the HWG and the HEN have been interviewed, besides the coordinators of these networks.

Further research

The present study has focused on public participation related to Mariahoeve. Future research could, firstly, further develop and apply the model of Wilcox (1994) by integrating additional aspects like the program administration and methods, as was done in the present study. Secondly, further research could look to continue by using or integrating the framework developed by Blok (2018) concerning energy justice.

The municipality of The Hague approached the heating transition differently in other districts than Mariahoeve. Due to the different approach from the municipality in these districts it could be interesting to analyze energy justice perceptions and participation programs in other districts of The Hague such as Statenkwartier, Vogelwijk, Vruchtenbuurt (all three have citizen initiatives in the lead of writing an energy plan), Moerwijk (with Sustainable The Hague in the lead), or Den Haag Zuid-West (with the municipality in the lead) (Hengelaar, 2018). Because the different neighborhoods have different actors taking the lead, comparing the experiences in these neighborhoods with Mariahoeve could generate interesting new insights.

The present study has shown that *external communication* and *recognition of claimholders* are perceived as problematic by local stakeholders in Mariahoeve. This is in alignment with the conclusions of Snel, Custers & Engbergen (2018), who indicate that certain groups of local citizens are better suited to participate, and that participation might therefore enhance injustice if they are not well-designed. As such, future research could investigate what alternative participation and communication methods could be implemented instead of or in addition to the invited participation in order to achieve a more representative view of communities affected in the heating transition.

The present study has shown that framing in the formal decision-making trajectory has resulted in overflowing in the informal trajectory, thereby affecting the energy justice perceptions aspect of the different tenets. Blok (2018) called for future research into how energy justice perceptions relate to each other. The present study has shown that framing could provide a potential pathway to investigate how the different energy justice tenets are linked. Future research could analyze the exact role of framing in the formal trajectory in overflowing, and whether certain types of overflowing affect specific energy justice tenets simultaneously.

Public participation in this research has proven to have the potential to establish alternative social interactions and networks in Mariahoeve. Within the proposal from the participants in Mariahoeve to the Alderman, an area cooperative was suggested as an established and successful form for local stakeholders to influence decision-making and to incorporate social and environmental values. In line with the call from Hoppe & de Vries (2019) for novel approaches and policy initiatives, future

research could investigate existing cases of area cooperatives (*Gebiedscoöperatie/de coöperatieve samenleving*; translation from the author) and their (potential) role in the heating transition.

Hoppe & de Vries (2019) also mention *policy experimentation* as a way to foster socially innovative practices, e.g. in relation to public participation (Hoppe & de Vries, 2019). Future research could investigate how policy experiments in relation to the heating transition could be formulated, especially with regard to different types of market design, ownership and governance. The municipality of The Hague has indicated in the draft city wide energy plan that there will be pilots with LT-heating solutions and support for heating initiatives of local stakeholders, which could prove fertile ground for such experiments.

10.7 Policy recommendations

The present study has investigated public participation and the energy justice perceptions of local stakeholders in Mariahoeve. To accelerate the heating transition and foster responsible decision-making by municipalities, the following policy recommendations could facilitate participation in the heating transition in Mariahoeve. These recommendations have been formulated by the writer and are based on insights gained in this study, feedback of participants and other interviewees. First a short explanation is provided, followed by the recommendation.

First of all, in many discussions in the formal and informal trajectory surrounding decision-making in Mariahoeve relevant existing policy documents like the municipal coalition agreements in The Hague of 2018 and 2019 and the climate pact play a pivotal role. The municipality should indicate to what extent it can live up to, for example, the precedence of local heating sources and low temperature solutions in Mariahoeve. Being transparent about how these aspects can and will be addressed could improve the communication amongst stakeholders.

1. The municipality should make clear to what extent and how the promises made in relevant policy documents will be fulfilled.

Secondly, to get a comprehensive overview of the interests and opinions of local stakeholders and inhabitants, gathering longitudinal data is important. By collecting and analyzing data over longer periods of time a deeper understanding of issues and concerns can be developed. Moreover, surveys could help to gain temporary insight into the perceptions of local stakeholders, and avoid too large a focus on the dynamic of the frontrunner group.

2. Surveys, longitudinal data collection and narrative analyses could help the municipality to get a more representative overview of what is important for local stakeholders.

Thirdly, expectation management and communication have an influence on how participants experience the process. A clear, comprehensive participation plan, as part of the *program administration*, could aid local policymakers in streamlining their communication and provide clarity to participants on their role in the decision-making process.

3. The municipality should clearly define how the input of participants will be integrated, the extent of influence/political leverage they will have and when and what type of feedback will be provided in a (publicly available) participation plan.

Fourthly, participants indicated that access to information was not always easy for them. A website with a clear overview of relevant policy documents, updates, events, contact details and other relevant information could improve the visibility and understandability of information for local

stakeholders in the district. During interviews, participants referred to the website that was made for “Mariahoeve knapt op” (Mariahoeve renovates; translation by the author) as a successful example.

4. The municipality should improve external communication through a better visible website and display more information.

Finally, many participants indicated that the lack of formal communication about role of Mariahoeve as a green energy district and the municipal plans for the heating transition gave them the perception of not being recognized. Sending a letter to all inhabitants and local stakeholders might kick-start a broader dialogue that could bring new issues and opportunities to the surface.

5. The municipality should communicate formally with all inhabitants in Mariahoeve about the plans for the heating transition and how, when and where they can participate.

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Appendix

Appendix 1: Codebook Public Participation

Participation Categories	Sub categories	Codes
Program Administration	Written Plan	Adopted by gov body Disseminated to public Comprehensive Doc
	Staffing	Participation Training Staff Member Percentage Time External Consultants
Purpose	Government perspective	Finding Preferences Building Legitimacy Required by Law Solve Conflict
	Citizen perspective	Stimulate Civil Society Representative Input
	Combined perspective	Advancing Fairness and Justice Build institutional capacity Integrate local knowledge to improve
Stance	Participation	Information Consultation
	Substantial participation	Deciding together Acting together Supporting independent community interests
Methods	Inform	Spread of information Agency Information Meetings
	Consult	Neighbourhood meetings Public Hearings Drop-In Centers Surveys Focus Groups Educational Workshops

	Involve	Workshops Workgroups & Sub-committees
	Collaborate	Citizen Adv Committees Negotiated Rulemaking Consensus Conference Citizen Jury
	Empower	Referenda Delegated Power
Information	Type	Maps Growth projections Summaries of plan elements Vision Statements Summaries of participant input Alternative planning designs/concepts Miscellaneous
	Channel	Press Conferences Video's Posters Radio Articles in newspapers Newsletters Leaflets Presentations at meetings Public access television Websites Social media
Phase	Initiation	Triggers Program administration
	Preparation	Stance Purpose
	Participation	Methods Information

Continuation

Evaluation

Table X. Codebook for Public Participation

Appendix 2: Codebook Energy Justice

This codebook is derived from Blok (2019, p47)

Procedural Justice		
Categories Procedural Justice	Sub-categories	Codes
Access to decision-making	Representation	Composition Elected Government Perception Representation
	Facilitation	Time/location
Influence on decision-making	Voice	Internal Voice External Voice
	Consideration	Consideration Negative Consideration Positive
Communication of Information	Process Display	Internal Process Display External Process Display
	Transparency	Internal Communication External Communication
	Understandability	Jargon Tools Explanation
	Accessibility	
Impartiality	Voting Procedure	
	Perception Impartiality	

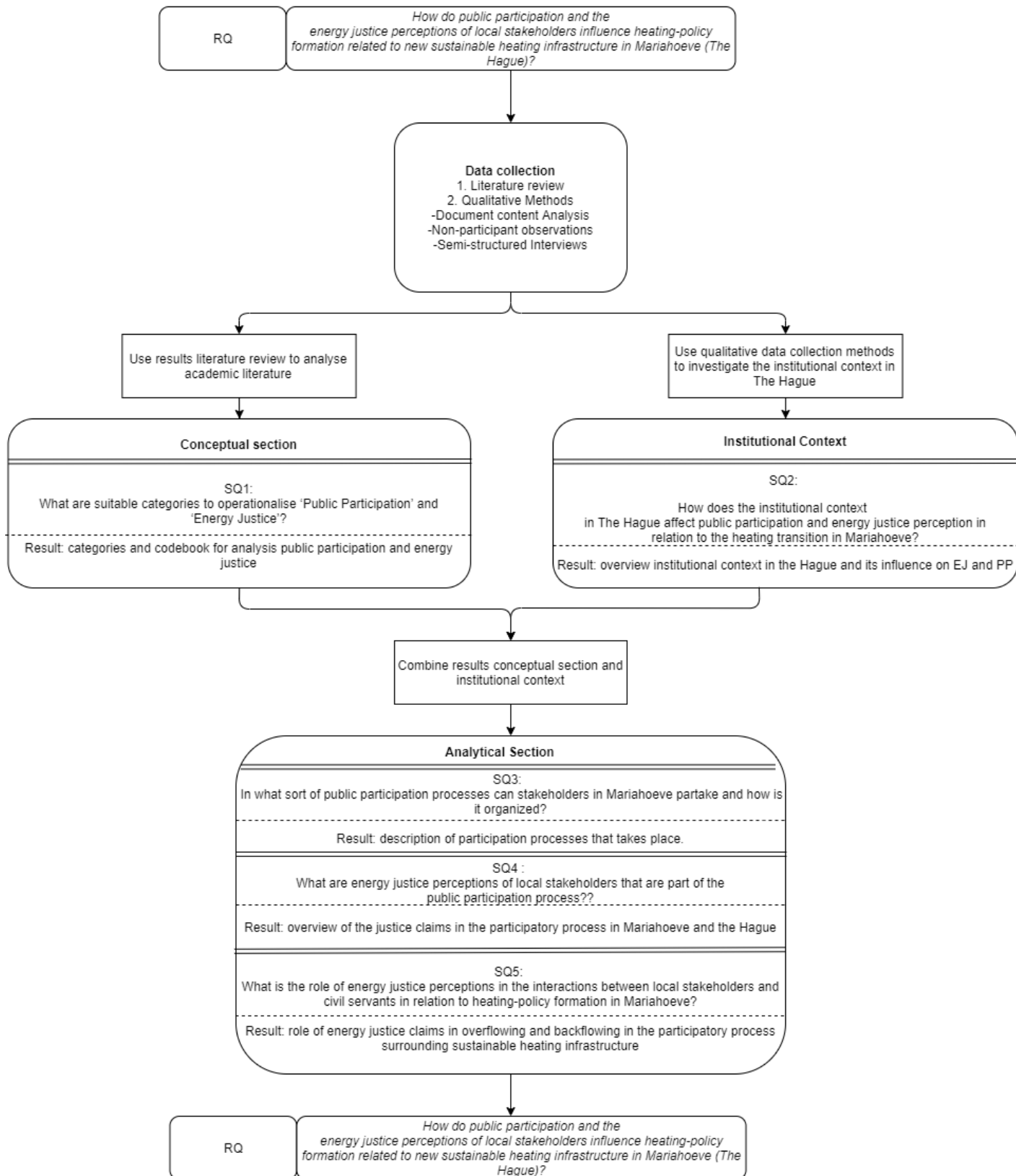
Distributive Justice		
Categories Distributive Justice	Sub categories	Codes
Outcome Favourability	Favourable outcome	Financial
		Non-financial
	Unfavourable outcome	Financial
		Non-financial
Outcome Fairness	Fair outcome	Financial

	Non-financial
Unfair outcome	Financial
	Non-financial

Justice as recognition		
Categories Justice as Recogn.	Sub-categories	Codes
Community of Justice	Claim-holders	Internal Claimholders
		External Claimholders
Justice as Self Recognition	Claim-addressees	Recog. Claim Holders
	Awareness	Awareness Injustice
		Personal Viewpoints
		Referring to Similar Situations
Responsibility	Articulation Justice Concerns	Justice Language
		Legitimising Concerns
		Distribution of Responsibilities
Perception of Distribution		

*In case no code is written down the sub-category is the code

Appendix 3: Research design diagram



Appendix 4: Literature review overview

Category Energy Justice	Journal	Keywords
Energy Justice and Governance	<i>Planning, Theory & Practice / International Energy Law Review / Energy Policy / Energy Research & Social Science / Personality and Social Psychology Bulletin / Applied Energy</i>	Energy Policy / Energy Justice / Governance / Energy Governance / Energy Justice and Public Participation

Table 1. Literature Review into Energy Justice

Category Public Participation	Journal or Publisher	Sub-categories	Key-Words
Public Participation	<i>Journal of the American Institute of Planners / Energy Policy / Energy Research & Social Science / Health Policy / Journal of Planning Literature / International Journal of Public Administration / Journal of the American Planning Association / Science, Technology & Human Values / American Review of Public Administration / Environmental Policy & Governance</i>	Arnstein's Ladder / Public Participation	Definition Public Participation / Definition Citizen Engagement / Ladder of Citizen Participation / Critique Ladder of Citizen Participation / Criticism Ladder of Citizen Participation / Planning Public Participation
Program administration	<i>Journal of the American Planning Association / Joseph Rowntree Foundation</i>	Written Plan / Staffing	Planning Public Participation / Planning Citizen Participation/ Requirements public participation
Purpose	<i>Journal of the American Planning Association / Planning, Theory & Practice / Joseph Rowntree Foundation / American Review of Public Administration / Impact Assessment and Appraisal / International Journal of Public Administration</i>	Citizen Perspective / Government Perspective / Combined Perspectives	Purpose of Public Participation / Purpose of Citizen Participation / Purpose of Citizen Engagement / Citizen Perspective Public Participation / Government Perspective Public Participation
Stance	<i>Joseph Rowntree Foundation, International Association for Public Participation</i>	Participation / Substantial Participation	Stance Public Participation / Dimension of Public Participation / Substantial Public Participation

Methods	<i>Journal of the American Planning Association / Joseph Rowntree Foundation / Science, Technology & Human Values.</i>	Inform / Consult / Involve / Collaborate / Empower	Methods Public Participation / Methods Citizen Engagement / Techniques Public Participation / Techniques Citizen Engagement
Information	<i>Joseph Rowntree Foundation / Journal of the American Planning Association</i>	Type / Channel	Types of Information / Categories of Information / Communication Public Participation
Phase	<i>Joseph Rowntree Foundation</i>	Initiation / Preparation / Participation / Continuation	Phase of Participation / Stage of Participation / Initiation Public Participation / Preparation Public Participation /

Table 2. Literature Review into Public Participation.

Appendix 5: Interview questions

Appendix Interview Questions

Questions Initiators Participationprocess and Institutional context

Institutional Context

Who are you, what is your function, what is your responsibility/project/research direction?

How has your team been established and how did you get involved?

Who is in charge of the decision-making process?

What is the goal of the decision-making process?

Can the team take independent decisions?

Does the team have shared goals?

How is collaboration with other departments within the municipality/other stakeholders?

How is the relation with the team and the executive branch of the municipality (Municipal Council/Executive & Alderman)?

How is the relation with other public bodies on regional and national level?

Participation

What does the team want to achieve with participatory methods? Why have these methods been initiated?

Do you have a time plan?

Who has final decision-making power?

How do the people in the team think about participatory methods?

What are the most important issues and worries for participants of public participatory processes?

Who are the most important stakeholders? How do you select and approach these stakeholders?

Are all relevant stakeholders involved? (also the less vocal ones)

What is the best way for stakeholders to participate in your opinion?

Can feedback from stakeholders be easily incorporated and used in the decision-making process?

Do you have contact with the most important stakeholders and do they support the participatory methods?

Do you have KPI's to measure the success of the participation?

Did you have internal training, or have you made internal agreements/rules about the coordination of communication and other responsibilities?

What type of outreach do you currently perform? Which channels/events?

Who is responsible for the management of the participation process? What is your responsibility?

General

What are barriers and opportunities to reach the municipal climate targets?

Which participation-method would be most successful from your personal/organizational perspective?

How do you reflect on the The Hague Energy Strategy?

How do you reflect on the influence of citizens on the The Hague Energy Strategy?

How do you reflect on the collaboration with other stakeholders related to the participation process?

If not municipality

What do you think is the goal of participation within the municipality?

How do you deal with participation processes within your own organization?

Appendix Interview Questions

Questions Participants Participation Proces Mariahoeve

Personal information

Who are you, what is your function and how did you get involved in the heatingtransition in Mariahoeve?

What was your motivation to contribute to the participation process in Mariahoeve?

In what way are you involved? (Which working groups, discussion groups)

What are the most important stakeholders in the process?

District heating system

What is your opinion about the plans to build a DH system in Mariahoeve?

What do you think are the effects of the construction of a DH system in Mariahoeve?

What is your opinion on the current policy from the municipality regarding the heating transition?

Participation

Was there clarity about the structure of participation and the influence from citizens within the process?

How accessible is the decision-making process?

Do you feel you have influence on the decision-making process?

How transparent is the information provision?

How well explained is the process?

Is the information provided by the municipality understandable?

Is the information easily accessible?

What is your opinion on the facilitators of the process?

What is your opinion on the outcomes of the current preference scenario in Mariahoeve?

What effect would this scenario have in your opinion?

How are participants, like yourself, selected and involved?

Do you think all relevant stakeholders are involved?

What are your worries and are they being taken seriously?

Who is responsible to guide the process in the right direction?

General

How do you experience the interactions and collaboration with other stakeholders (IF Technology, Eneco, Stedin, Fakton, Duurzaam Den Haag)?

What is your opinion on the The Hague Energy Strategy?

How do you reflect on the influence of citizens on the The Hague Energy Strategy?

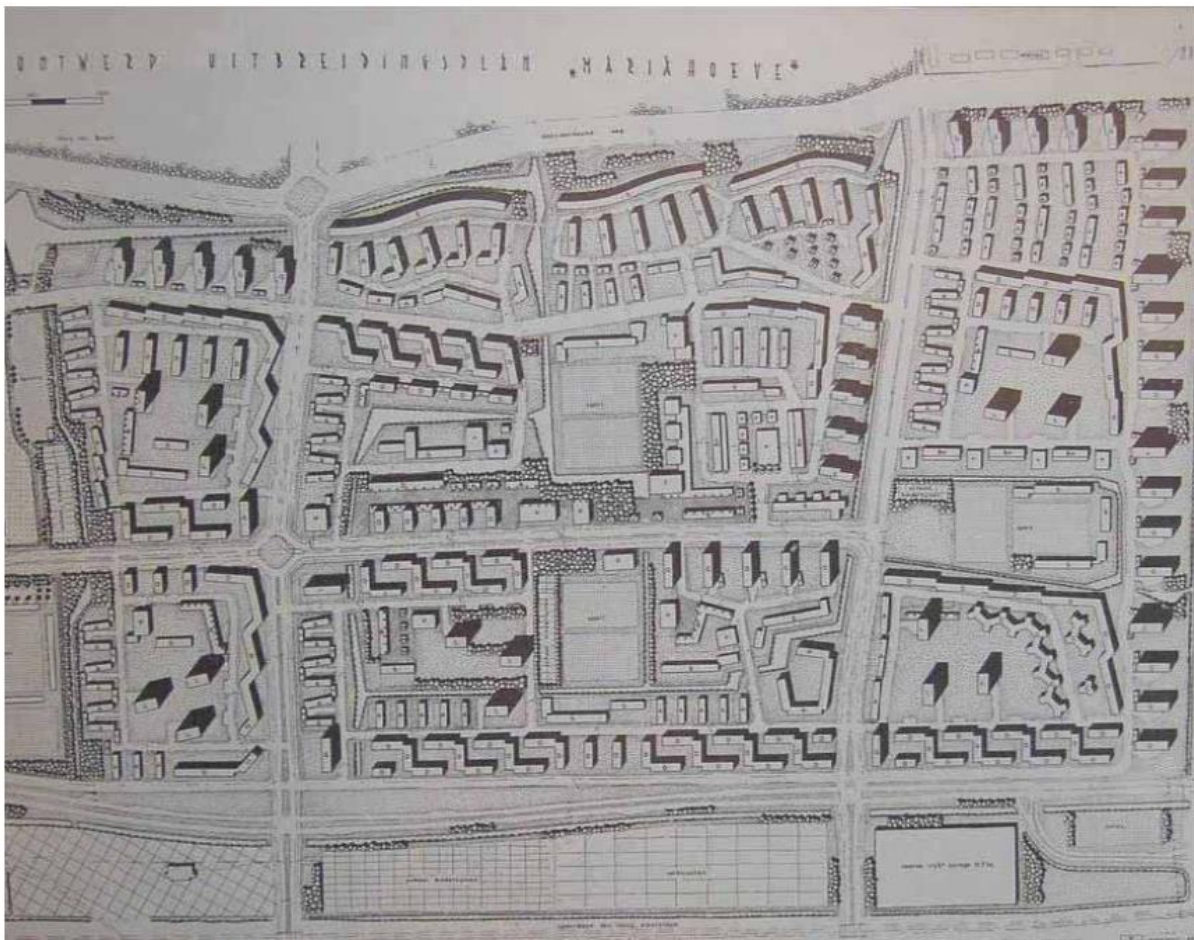
What is your opinion on the role of the government in this process?

Appendix 6: Document Analysis Overview

Policy / document	Source	Scope	Section
Municipal functioning	Prodemos	Municipal	Public service delivery rules
Politieke Ambtsdragers (Rijksoverheid)	National Government	National/municipal	Public service delivery rules
Municipal Council Members	Association of Municipal Council Members	Municipal	Public service delivery rules
Inspraak en participatieverordening Den Haag	Municipality of The Hague	Municipal	Relevant Policies
Haags Warmte Initiatief	Municipality of The Hague	Municipal	Relevant Policies
Haags Warmtemanifest	Heating Working group The Hague	Municipal	Relevant Policies
Haags Energieakkoord	Municipality & Key Stakeholders	Municipal	Relevant Policies
Haags Klimaatpact	Municipal Council Members	Municipal	Relevant Policies
Coalitieakkoord 2018-2022	Municipality of The Hague	Municipal	Relevant Policies
Kadernota Duurzaamheid	Municipality of The Hague	Municipal	Relevant Policies
Programmaplan Energietransitie	Municipality of The Hague	Municipal	Relevant Policies
Programmabrief Duurzaamheid 2020	Municipality of The Hague	Municipal	Relevant Policies
Coalitieakkoord 2019	Municipality of The Hague	Municipal	Relevant Policies
Ontwerp Stedelijk Energieplan	Municipality of The Hague	Municipal	Relevant Policies
Programmabegroting 2017-2020	Municipality of The Hague	Municipal	Budgetary support
Besteding duurzaamheidsmiddelen 2016 - 2018	Municipality of The Hague	Municipal	Budgetary support
Programmabegroting 2020-2023	Municipality of The Hague	Municipal	Budgetary support
Rebel Studie – Energietransitie in Mariahoeve	Municipality of The Hague	District	Management practices
Klimaatakkoord	National Government	National	Role of the Government
Online portal – Handreiking participatie	National Government	National	Role of the Government
Voortgang wetstraject Warmtewet 2	National Government	National	Role of the Government

Kamerbrief over voortgang invoering Omgevingswet	National Government	National	Role of the Government
Kader voor vormgeven van participatie bij duurzame energieprojecten	National Government + stakeholders	National	Role of the Government
Handreiking RES1.0	National Government + stakeholders	Regional	Role of the Government
Programma Aardgasvrije Wijken	BZK, EZK, IPO UvW, VNG	National / Municipal	Role of the Government
Samenvatting besluitvorming Leiding door het Midden	Municipality of The Hague	Regional	Role of the Government
Technische Vragen LdhM	Municipal Council Members	Regional	Role of the Government
Presentaties bij Commissie Leefomgeving Gemeenteraad	Stakeholders	Regional	Role of the Government

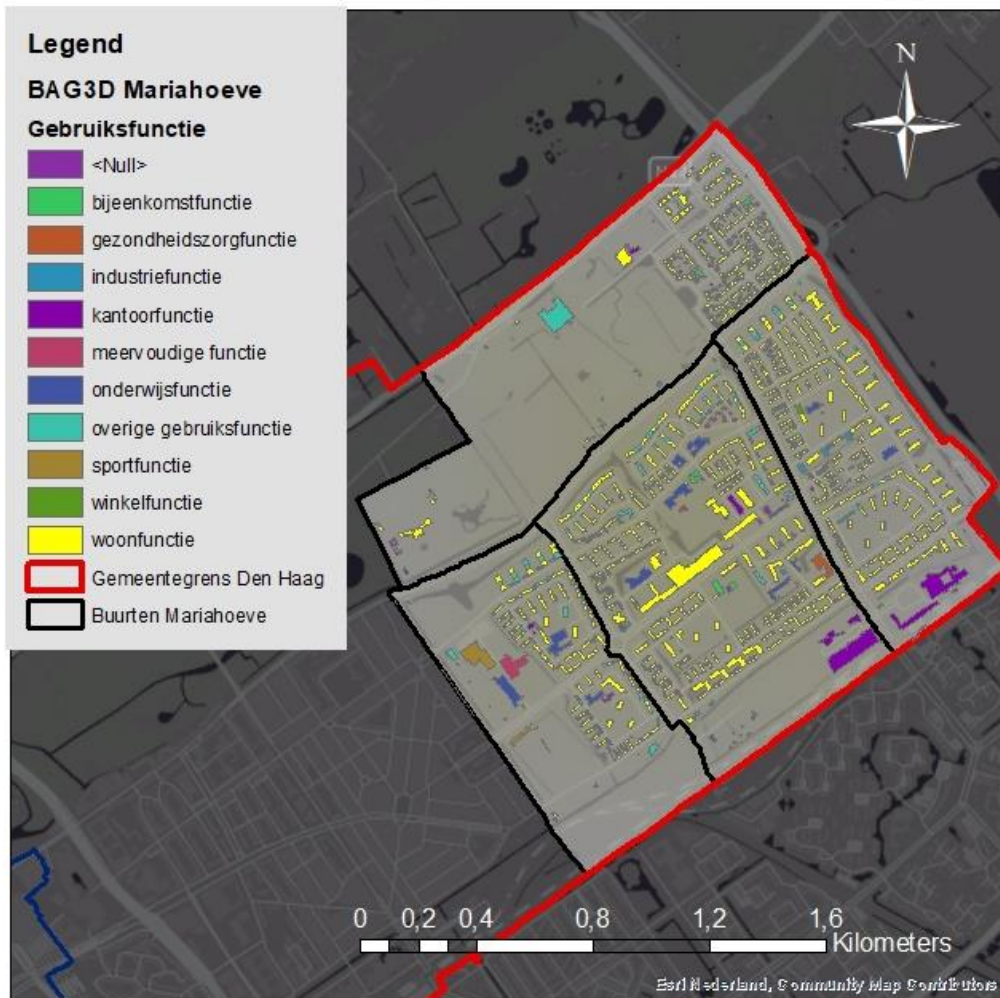
Appendix 7: Mariahoeve planning



Plan F. van der Sluijs 1953

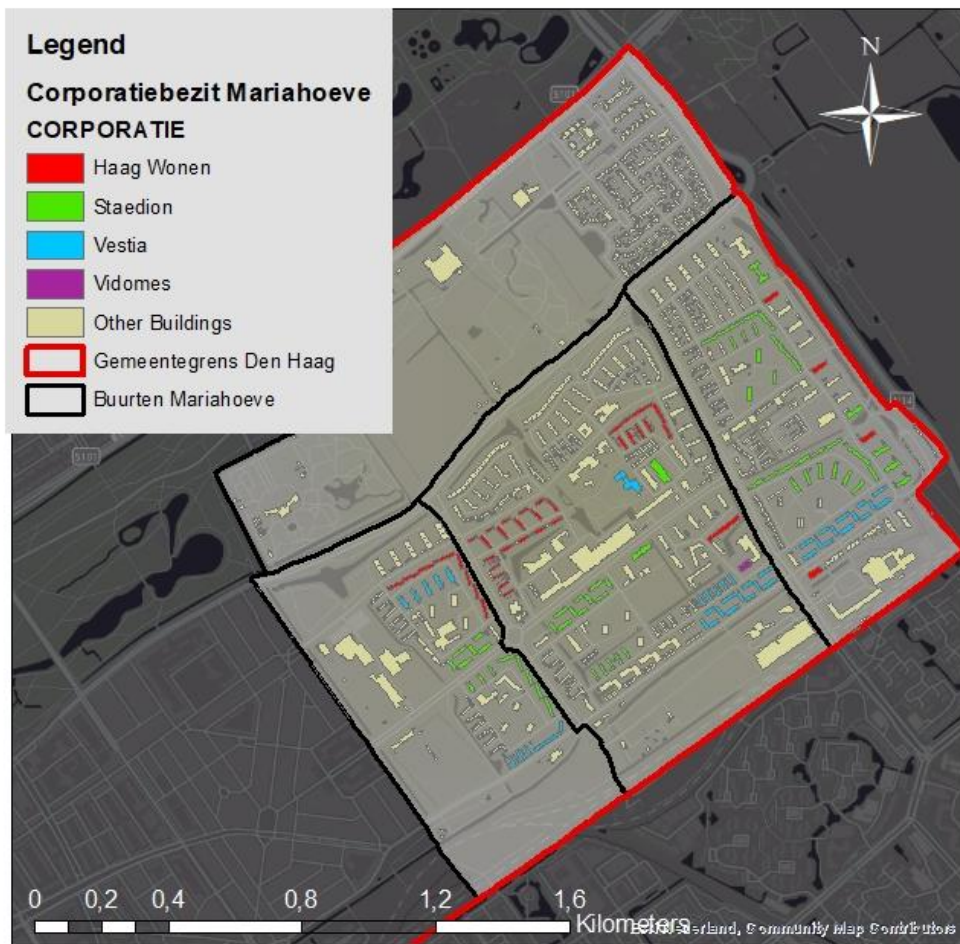
Appendix 8: Type and Location of Buildings in Mariahoeve

Building Function Mariahoeve & Marlot



Appendix 9: Housing Corporation Real Estate in Mariahoeve

Housing Corporation Ownership Mariahoeve & Marlot



Appendix 10: stakeholders for the programmaplan Energietransitie

Type	Name
Energy Companies	ENGIE, Perpetuum Energy Partners, Solar Greenpoint, Uniper, Eneco, Haagse Aardwarmte Leyweg
DSOs	Dunea, Netbeheer Nederland, Stedin, Alliander DGO
Citizen initiatives	070 Energiek, Zospeum, De Groene Regentes, Vogelwijk Energiek, Langebeesten Energiek, Vruchtenbuurt
NGO's	Duurzaam Den Haag, VvE beheer Haagland, Stimuleringsfonds Volkshuisvesting
Housing associations	Vestia, Staedion, Haagwonen,
Other companies	Siemens, Outside Inc., World Start-up Factory
Governmental bodies	Rijksvastgoedbedrijf
Municipal bodies	Programmteam Energietransitie, Dienst Stadsbeheer, Dienst Stedelijke Ontwikkeling, Dienst Publiekszaken, Dienst Sociale Zaken en Werkgelegenheid, Dienst Onderwijs, Cultuur en Welzijn, Bestuursdienst
Supporting partners	APPM (Energy Agreement), KBM Allianties (Change Management & Organisation), Schuttelaar & Partners (Communication Strategy), Overmorgen (Energy Transition Atlas), CE-Delft & ECN (back-casting, scenario studies), Next2 (Company & Digital Proces programming)

Appendix 11: Overview stakeholders attending initial koplopergroep sessions

Type Stakeholder	Names
Condominium Associations	Denenweg, Bamsterhorst, Marlot IV, Parkflat Marlot, Parelmoerhorst, Hofzicht, Maryland IV
Housing Associations	Staedion, Haagwonen,
Companies / Healthcare / Schools	Aegon, Woonzorgcentrum Ametisthorst, Lucas onderwijs, De Haagse Scholen, TNO
Citizen groups / initiatives	Wijkberaad Mariahoeve, Kunstpost, Tuinen van Mariahoeve, individual citizens

Public Service Providers
Government

Stedin, Hoogheemraadschap Delfland
Municipality, Province of South Holland

Appendix 12: Overview of relevant attended events

Events prior to data collection

Start of the participatory process in Mariahoeve

Relevance for Mariahoeve	2015	2016	2017	2018	2019					
			28-11-2017 Inspiration afternoon housing corporations and municipality	18-12-2017 Internal kick-off large number municipality employees. SWOT Mariahoeve	01-2018 Conversations 1-1 with municipal employees. Establishment project team and leading team	02/03-2018 Meetings with AoO's together with the AoO-desk	05/06-2018 Second round of meeting between municipality and external parties including companies and citizen initiatives to explore possible collaboration	28-11-2018 Municipality organises integral session Mariahoeve with TNO. Energy Tables.	04-04-2019 Follow-up on the integral session	01-10-2019 Start data collection Thesis project
Relevance for Both Mariahoeve and Institutional Context	2015 The Hague environment centre transformed into NCO Sustainable The Hague	2016 Start Heating Workinggroup by Sustainable The Hague					mid-2018 Sustainable The Hague supports citizen initiatives with pilot projects related to heating			
Relevance for Institutional Context	Start Energy Transition Team. Focus- households									
Year	2015		2017	2018				2019		
Source	Interview Pieter / Nynke	Interview Lennart	Interview Lennart	Rebel (2018)	Rebel (2018)	Rebel (2018)	Rebel (2018)	Interview Lennart	Verslag integrale sessie (2018)	Verslag vervolgsessie (2019)

28-11-2018 Municipality organises integral session Mariahoeve with TNO. Energy Tables.	04-04-2019 Follow-up on the integral session	01-10-2019 Start data collection Thesis project
Hague initiatives with pilot projects related to heating		
2019		
Verslag integrale sessie (2018)	Verslag vervolgsessie (2019)	

Participatory observation period

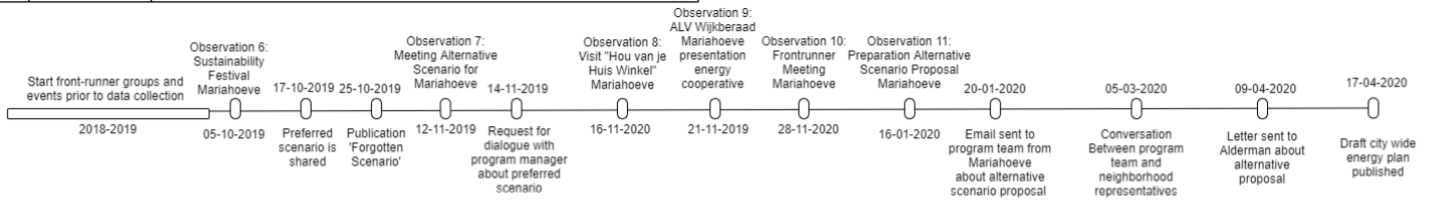
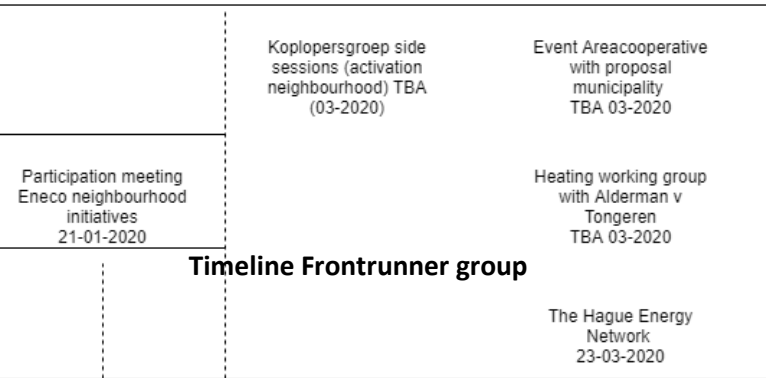
Cancelled because of Corona

Relevance for Mariahoeve	2019	2020	
	Sustainability Festival Mariahoeve 05-10-2019	Meeting Alternative Scenario for Mariahoeve 12-11-2019 Visit "Hou van je Huis Winkler" Mariahoeve 16-11-2020 ALV Wijkberaad Mariahoeve 21-11-2019 Meeting Koopgroep Mariahoeve 28-11-2020 Preparation Proposal Energy Cooperative Mariahoeve 16-01-2020	Koplopersgroep side sessions (activation neighbourhood) TBA 03-2020 Event Area cooperative with proposal municipality TBA 03-2020
Relevance for Both Mariahoeve and Institutional Context	Heating Working Group Duurzaam DH (DriëfHuygens) 18-10-2019	Heating Workinggroup Duurzaam Den Haag (Thermobell/Energiesamen) 17-01-2020 Participation meeting Eneco neighbourhood initiatives 21-01-2020	Heating working group with Alderman v Tongeren TBA 03-2020
Relevance for Institutional Context	RES cooperative meeting 05-11-2019 The Hague Energy Network 11-11-2019	The Hague Energy Network 14-01-2020	The Hague Energy Network 23-03-2020

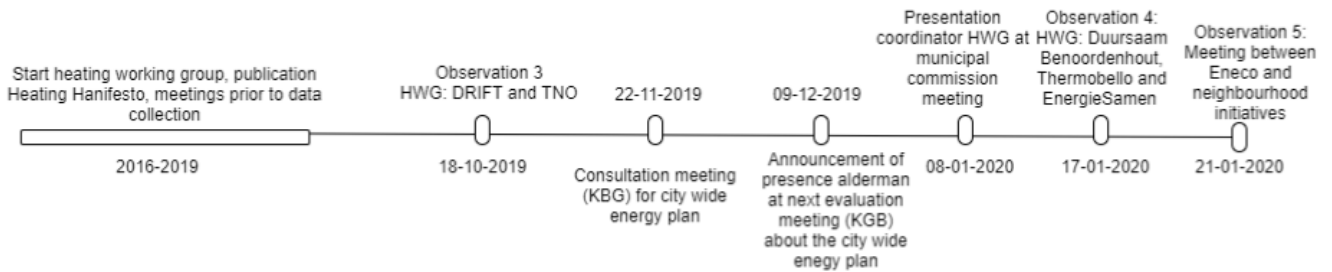
Start Data Collection : 01-10-2019

2020

Cancelled because of Corona



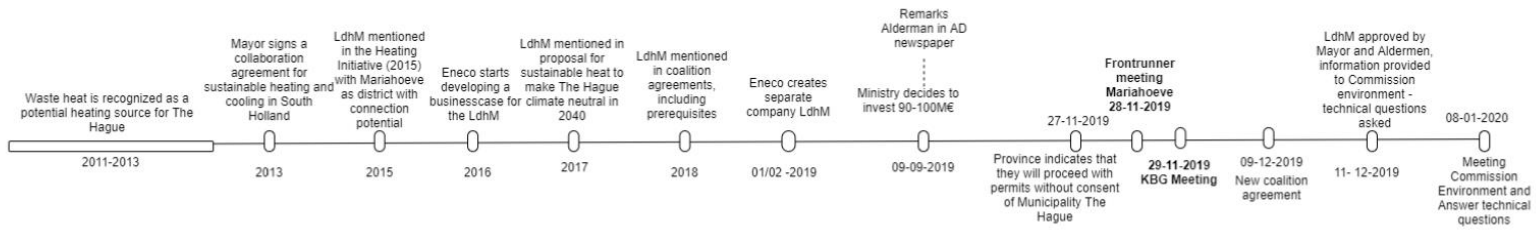
Timeline Heating Working Group



Timeline The Hague Energy Network



Timeline Leiding door het Midden Decision-making Process



Appendix 13 : Overview of Required Gas Replacement in Mariahoeve

Replacement Gas Infrastructure Required



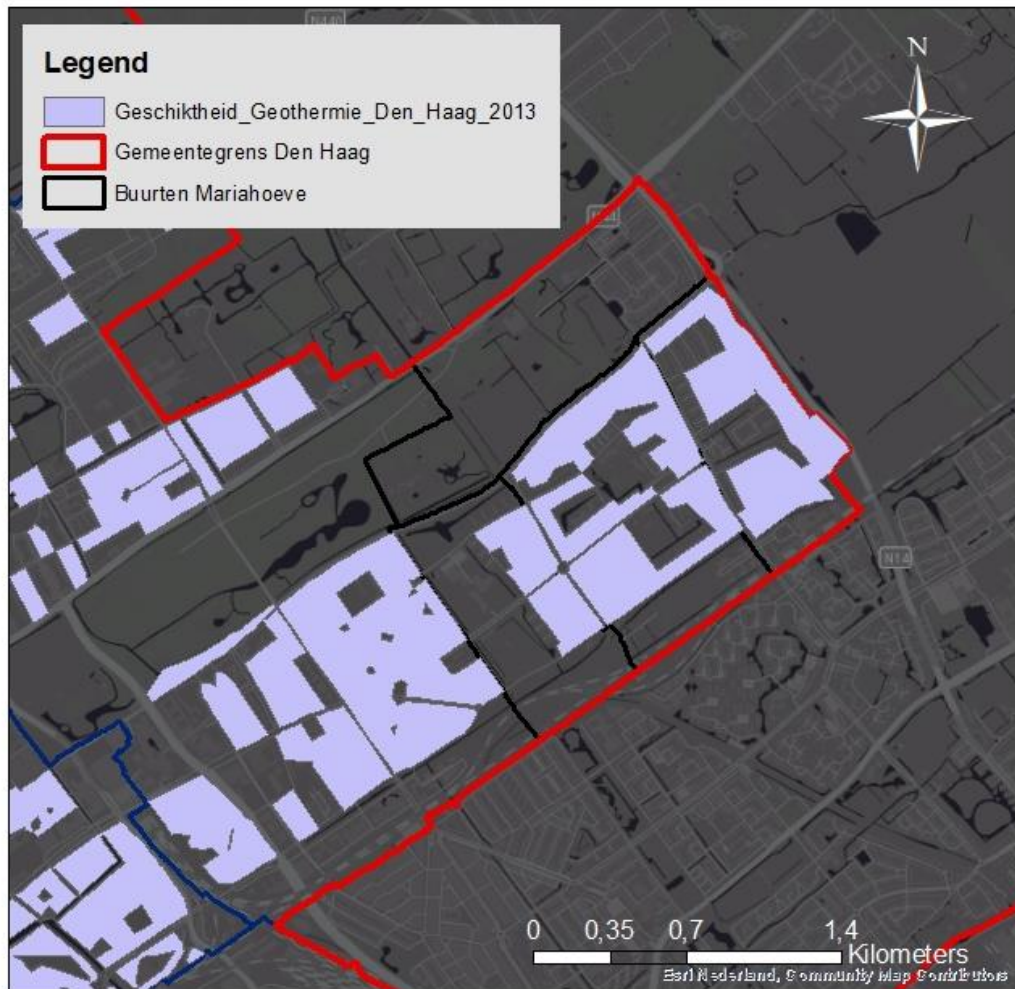
Appendix 14: Riothermal Energy Potential Mariahoeve

Riothermy Potential Buildings



Appendix 15: Geothermal Energy Potential Mariahoeve

Potential Geothermal Energy Mariahoeve



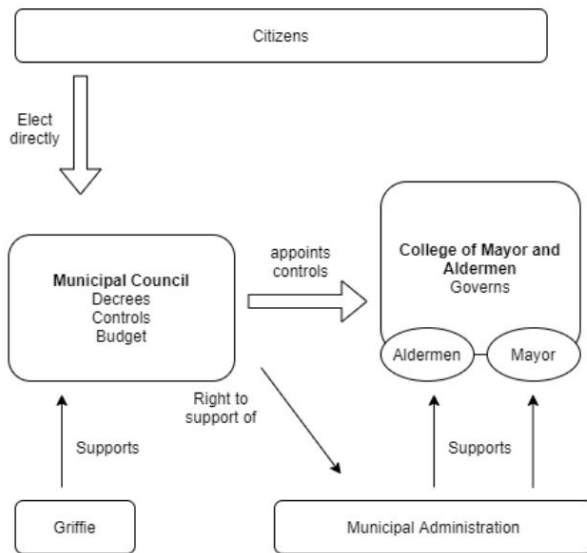
Appendix 16: Institutional Context

Appendix 16.1: Summary Public service delivery rules

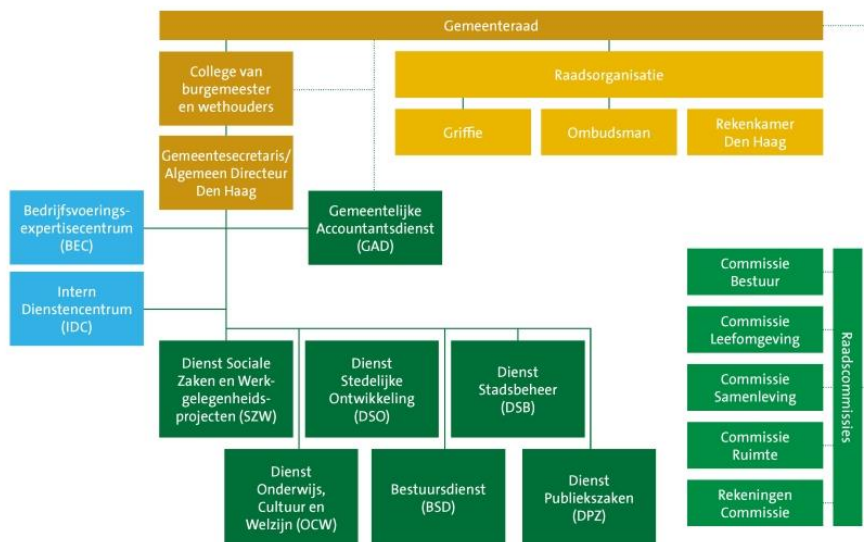
Each municipality in the Netherlands is composed of three central bodies: a municipal council, a college of mayor and aldermen and a municipal administration (Prodemos, n.d.). Especially the first two have explicitly defined roles and mandates which are embedded in various laws (Politieke ambtsdragers, n.d.). The college of mayor and aldermen is responsible for leading the executive branch and the administration of the municipality. The mayor is responsible for safety and public order, while aldermen direct specific departments. The role of the municipal council is to control the college, can create commissions which analyze the policy of the college, to set the boundaries for municipal policy and represent the population (Raadsleden, n.d.). The college of mayor and aldermen is accountable for its policies to the council. The municipal council is elected every year during the municipal elections. After the elections a coalition is formed consisting of various political parties that negotiate a policy package. These coalition parties appoint the aldermen, who lead the executive departments in the fields of education, public works, finance, housing, sports, culture (Prodemos, n.d.). Recently the heating transition has been added to this list. Aldermen cannot simultaneously be member of the municipal council and have to give up their seat if they enter office. The mayor chairs both the college of mayor and aldermen and the municipal council. The mayor can only vote in the former, but has the right to participate in the political debate of the latter.

The mayor is not directly elected, but is selected by the national ministers and the king based on a list of requirements drafted by the municipal council. Because the college of mayor and aldermen leads the executive, its members play an important role in the energy transition. The municipal council is the highest political body which controls the college of mayor and alderman and approves policy by vote (Prodemos, n.d.). The council has right of support of the municipal administration in response to questions regarding municipal policy. Within the municipality there are two types of budgets: the program budget and the product budget. The program budget which more broadly defines expenditures by the municipality is set by the council, and the product budget, which is a detailed translation of the program budget, by the college of mayor and aldermen.

Since 2002, there is duality in the municipality of The Hague, which entails that the municipal council and the college of mayor and aldermen work with separate administrations (Den Haag, 2020). The name of the administration for the municipal council is called the council-griffie (Raadsleden, n.d.). The figure below gives a simplified overview of the different municipal bodies that are defined by the public service delivery rules. Afterwards, a detailed organogram of the municipality of The Hague is provided.



Den Haag



Organogram Municipality The Hague, accessible at: <https://www.denhaag.nl/nl/bestuur-en-organisatie/gemeentelijke-organisatie/de-gemeentelijke-organisatie.htm>

Appendix 16.2 – summary relevant policies in The Hague

Inspraak en participatieverordening Den Haag 2012

On the website of the municipality of The Hague a special page describes how citizens can participate in policy (Den Haag, 2020). The participation procedure is formulated in the participation ordinance (Participatieverordening, 2012). The ordinance describes a four-step plan for each participation process of the municipality: 1) drafting the starting document, 2) announcing the plans for the participation process, 3) making adjustments and execution of the participation process and 4) drafting the final report. The starting document describes the subject, goal, stakeholders and boundaries within which the process takes place. It also motivates the choice for the level of participation, when and how participants can contribute and how the project lead will communicate about the content and process (Participatieverordening, 2012). Subsequently, the plans are announced, which is an important step before the actual start of the participation process. After the announcement adjustment can be made based on feedback of stakeholders, after which the plans are executed. After the process, a final report is drafted which contains an overview of the process, the input from stakeholders and agreements that have been made based on the process. The municipality has to reply to this content. If the input is ignored, this needs to be motivated, and the mayor will mention the final report in the citizen year report.

For participation processes, the municipality differentiates between four ‘levels’: consultation, advising, coproducing and deciding together. Consultation entails the collection of ideas, wishes, opinions and preferences of stakeholders. The municipality decides what to do with this. In case of advising the stakeholders are asked for a collective advice. If the project manager decides to ignore the advice this needs to be motivated. In the case of co-production the municipality develop a plan together, within boundaries set by the municipality. The municipality follows the plan of the stakeholders. If the municipality decides to let the choice for a solution to stakeholders, this is called deciding together. At least two alternatives need to be provided, and boundaries are set by the municipality.

Haags warmteinitiatief (2015)

In 2015 the municipality of The Hague presented the Haags Warmte Initiatief (HWI - The Hague Heating Initiative), a plan of action for a sustainable heating policy in The Hague. The HWI set the target to reduce the emission of buildings with 20% in 2030 and create a sustainable heating source. The HWI specifically looked at alternative sustainable heating sources for gas, and envisioned that individual ground-coupled heat exchangers, electrical heating and collective heating systems have most potential (Wijsmuller, 2015). The cheapest solution in the historic inner city would remain gas, dense urban areas can most cheaply be heated with collective heating systems and less densely populated areas and new buildings could best be heated all electric. The HWI describes that there are promising opportunities for a regional district-heating system with waste-heat from Rotterdam through the Central Pipeline (Leiding door het Midden – LdhM). Case-study research has looked into how districts can be connected to such a DH-system, with the pre-requisites that it is cost-competitive with gas, it is in line with district and neighborhood initiatives, that it enhances the freedom of choice and stimulates energy saving and isolation (Wijsmuller, 2015). The role of the HWI would be to connect different stakeholders, the facilitation of new initiatives, and to develop options and guarantee process quality. The HWI describes opportunities in carbon reduction, but stresses that participation of housing associations and energy companies is essential. It also governments that it is essential to increase the success-chance of local citizen initiatives, for which demand bundling,

investment thresholds and adequate information sharing is key. The HWI will be evaluated in 2017 because the national government will change the rules in the heating market.

A powerful governance structure is necessary in the form of a program or development organization with sufficient mandate and possibilities to realize the execution of the plans. This initiative contributes to

- the financing and execution of heating projects
- the development of financing structures for ground-coupled heat exchangers
- enhancing public support for existing DH-systems
- improving the existing DH-infrastructure
- Strive for an independent DSO for heating for existing and future local DH-systems
- collaborate with regional stakeholders, especially in relation to waste heat from Rotterdam from the 'heating roundabout' (Warmterotonde) project.
- establishing a program-management that monitors the cohesion of the projects and reports to the municipal council.
- creating a comprehensive communication strategy to citizens and companies
- collaborate with local citizen initiatives

The document mentions Mariahoeve as a 'low hanging fruit' area for a DH-system, together with 10 other districts (Wijsmuller, 2015, p35). The WHI aims to actively engage with citizen initiatives, in order to strengthen them, in collaboration with NGO Sustainable The Hague (Duurzaam Den Haag). The departments of urban development (Dienst Stadsbeheer) and city management (Stadsbeheer) are already supporting this participatory policy with subsidies. The aim is to bring citizens and experts closer together by intensifying the collaboration with those citizens that are already active with energy efficiency and sustainability in frontrunner groups (Koplopersgroepen). These citizens can become ambassadors and engage others in the heating transition. The professionalization of these groups makes them a serious partners for the conventional and existing regime actors like housing associations and energy companies. Knowledge within the municipality, currently scattered in different departments, should be brought together.

Heating Manifesto

In the run up to The Hague Energy Agreement and the municipal elections in 2018 the participants of the heating working group published a manifesto with requests (Warmtemanifest, 2017). The central points in the manifesto are that 1) decisions need to be made together with citizens, 2) focus on local heating sources instead of the LdhM and assure that what can be done locally, is done locally, 3) organize the transition in a decentral way on district level, 4) focus on innovation and new companies instead of vested corporate interests, and 5) the municipality sets the boundaries, facilitates the transition and guards the timeline in a flexible manner (Warmtemanifest, 2017). The manifesto proposes measures like the establishment of working groups with civil servants and representatives from neighborhood initiatives, the collaborative drafting and execution of neighborhood energy plans is done by these working groups while assuring inclusion of wishes from the inhabitants, and subsidies need to be provided to professionalize neighborhood initiatives. In addition, the manifesto calls upon the municipality to let the neighborhood decide upon the final implementation of the neighborhood energy plan (Warmtemanifest, 2017).

Haags Energieakkoord (2018)

On the 11th of February 2018 the The Hage Energy Agreement (Haags Energieakkoord) was signed. In The Hague Energy Agreement a group of energy companies, DSO, housing associations, companies,

citizen initiatives and the municipality agreed to collaboratively make 100 000 houses in 10 neighborhoods climate neutral (Haags Energieakkoord, 2018)(see **Appendix X** for overview signatories). Within the agreement the signatories agree that:

- the information from the energy transition atlas is the objective starting point for calculations
- different stakeholders sometimes have different regulatory responsibilities and different interests, which will be respected
- The wishes of citizens and companies are leading, and the wishes in the Haags Warmtemanifest is a relevant starting point.
- There is a broad wish for an open collective DH-system
- We strive for DH-systems with temperatures as low as possible in order to make it possible for sustainable sources can be used optimally. This requires sufficient time for isolation measures
- HT-DH systems will in due time be transformed into MT-DH systems, and new systems will be developed to they can be used for a feed-in temperature of 70 degrees
- We agree that 100 000 houses are made energy neutral in 10 years, of which 25 000 in the coming five years.
- We start in 10 selected areas with each a specific organization in lead
 - o Municipality lead: Mariahoeve, Den Haag Zuid-West, Binckhorst/CID
 - o Sustainable The Hague: Moerwijk-Oost, Noordpolderbuurt, Koningsplein en Omgeving
 - o Citizen initiatives: Vruchtenbuurt, Vogelwijk, Ypenburg, Governmentkwartier an Scheveningen
- Information and learning will be shared with partners in the agreement and other involved regulatory bodies
- For each area a neighborhood energy plan (Wijkenergieplan) will be developed.

The signatories of the agreement collaborate in an open network in which each party that has a stake in the energy transition can participate in. To achieve the goals of the agreement a special driving force ambassador (Haagse Energieaanjager) will be appointed.

The agreement was signed by :

Stakeholder group	Name
Government	Gemeente Den Haag, Provincie Zuid Holland
Housing associations	Haag Wonen, VvE Beheer Haaglanden, Vestia, Staedion, Rijkvastgoedbedrijf
Energy companies	Uniper, Eneco, Engie
Companies	World Start-up Factory
DSO	Stedin, Aliander, Dunea
NGOs	Duurzaam Den Haag
Citizen group	070 Energiek, Vogelwijk Energiek, De Groene Regentes, Warm in de Wijk

Haags Klimaatpact 2017-2018

On 13 June 2017 council members of eight local political parties signed the Climate Pact (Haags Klimaatpact). After a campaign in 2018 more stakeholders signed the pact, including representatives of five other political parties, all political youth parties and over 300 companies and other organisations in The Hague. Only two parties, the PVV and the Groep de Mos party, have not signed the pact. The climate pact sets the target of making The Hague a climate neutral city in 2030. It stresses the necessity to make climate policy an integral part of the municipal organization and a responsibility of the complete college of mayor and aldermen. It requests the installment of a specific alderman for sustainability and the transition. Furthermore, it calls upon the municipality to train the civil servants working in the administration to become aware about climate issues and opportunities (Haags Klimaatpact, 2017). In addition, the pact has sections describing how the municipality has to lead by example, how it should involve citizens and companies and address specific issues like the energy transition, heating, electricity circularity, houses, mobility and food.

In relation to participation the climate pact governments that flexibility and freedom of choice are important, that the municipality has to stimulate and support local initiatives and create the right environment for these initiatives to flourish. The municipality should also showcase successful citizen initiatives to increase awareness about the possibilities.

In relation to heating the pact stresses the importance of seasonal storage capacity of heat, energy efficiency and the necessity of pilots. The pact governments that the municipality invests in LT-DH systems on all scales: from individual houses to condominium associations to neighborhoods to districts. HT-DH systems get a maximum temperature of 70 degrees in order to facilitate the integration of local geothermal energy. Furthermore, the pact governments that the gas power plant at the Constant Rebecqueplein can provide the peak load heat in times when local sustainable sources are insufficient (Haags Klimaatpact, 2017).

Coalitieakkoord 2018

On 29 May 2018 the coalition of Groep de Mos (local party), VVD (conservative party), D66 (liberal party) and GroenLinks (Green Party) presented the local coalition agreement. The agreement entailed many of the targets set in the climate pact and the energy agreement. It includes (Coalitieakkoord 2018-2022):

- Concrete steps to become climate neutral in 2030
- Ambition to make 25 000 houses climate neutral before 2022.
- 10 “green energy neighborhoods”, of which all 100 000 buildings will be climate neutral in 2028
- A concrete neighborhood energy plan for all neighborhoods in The Hague in 2021.
- Potential for the LdhM, but with the pre-requisite that is needs to allow access for local heating sources (geothermal energy), precedence for local initiatives, independent network operation, reasonable pricing and the enhanced transition from waste-heat producers to sustainable operations.
- 30% of the revenues of the sales of Eneco will be used for the heating transition. This will be channeled to a revolving transition fund that will help with financing isolation and other transition measures.
- The exemplary role of the municipality in terms of sustainability of its buildings stock, employees, sustainable procurement and integration of sustainability requirements in subsidy criteria.
- The need to improve participation of citizens in policymaking

- The improvement of the Stadsdeelkantoren as centers of information sharing and collection in the neighborhoods and more involvement of citizens in decision-making.
- In the field of participation the district and neighborhood will get a more important role, for example with the participation ladder and neighborhood budgets.
- Openness towards initiatives from the neighborhoods regarding the urban planning in their district. Especially in light of the expected Omgevingswet there are opportunities for more participation. We clearly show how input has influenced the decision-making and which input has been included.
- There are high standards for the information shared with and communication in the neighborhoods, also for external partners of the municipality.
- Parties have to communicate adequately and early with the neighborhood and be available for questions.

Kadernota Duurzaamheid (2019)

On 4 March 2019 the Kadernota Duurzaamheid was presented to the municipal council by alderman van Tongeren. The nota intends to make an abstract concept of “climate neutral city” concrete by detailing how the energy transition in the city The Hague will be organized. Here some of the most essential points will be summarized. The central themes of the nota are living environment, mobility, resources and energy, of which the focus here is on energy. The municipality wants to realize these plans together with the citizens. In order to achieve that clear communication is essential. The municipality aims to bundle the information from all initiatives, funds, projects and plans. The nota details the following key communication take-aways (Van Tongeren, 2019):

- We help everyone that is personally working on sustainability and renewable energy
- We provide practical explanations and advice on how to get subsidies that help to save energy.
- All advice and tips can be found in the same place on our website
- We help groups of citizens/companies that want to reduce energy consumption to do it together
- We always communicate new plans in your neighborhood clearly and timely
- We are clear about our own role in new plans and about the influence and involvement of citizens, companies and other stakeholders in the city
- Our information is honest, clear and collaboratively formulated with our partners.

Within the energy transition the municipality has different roles.

- Facilitate. Facilitate the initiatives from citizens and companies.
- Connect. Bring together stakeholders to achieve better results
- Direct. Where necessary the municipality will take the lead
- Support. Financial support and or shared procurement of goods
- Regulate. If required the municipality will make rules and issue permits.

The municipality collaborates with other G4- municipalities.

The revolving energy fund will provide attractive loans to projects in the energy and heating transition, and with the capital that is paid back new loans can be provided. Before 2021 a city-wide energy plan will be written, made up of energy plans for each neighborhood. The 10 energy neighborhoods take the lead in this process. The municipality will be in charge of the drafting of this city-wide plan for the critical energy infrastructure. Next to the geothermal energy project at the Leyweg, there will be three other potential geothermal energy sources, at least one aquathermal LT

source and one solarthermal source. Preparations are taken for the construction of the LdhM and construction of ground-bounded heat exchangers. The Bouwlist/Vrederust neighborhood is part of the program gas-free neighborhoods (Programma Aardgasvrije Wijken). All schools in The Hague will make their buildings sustainable and all large companies will do the same.

The national government is an important partner. The Hague, together with partners from the G4 and de VNG call for municipal jurisdiction to decide which heating source is used in neighborhoods. Moreover, the municipality calls for smart financing and sufficient budget for financing of individual buildings, costs of the municipality and guarantees for the unprofitable tops. Furthermore, the role division between province, municipality and national government needs to be clear. Finally, a clear market structure for DH-systems needs to be invented.

Programmaplan Energietransitie 2019

The program plan for the Energy Transition (Programmaplan Energietransitie) has been presented to the municipal council on 21 September 2018 and is the result of intensive collaboration between larger stakeholders including energy companies, DSO's, citizen initiatives, NGO's, Housing Associations, other companies, governmental bodies and municipal bodies. See **Appendix X** for an overview of the stakeholders. The "Programmaplan Energietransitie Den Haag (PEDH)" has the main focus of realising the energy transition in the built environment related to heating (Hengelaar & Next2Company, 2018). The PEDH has 3 step approach in which preferred technological solutions are selected, neighbourhoods are selected and the approach of action per neighbourhood are selected. This has resulted in the earlier mentioned 10 Green Energy Neighbourhoods (GEN), and the approach in each neighbourhood. These strategic choices have been made considering neighbourhood-characteristics like average energy use, energy density, housing characteristics, housing ownership, age of existing gas infrastructure, presence of DH-systems, availability of local heat sources and housing corporation presence.

The municipality and its partners have determined which neighbourhoods are the focus neighbourhoods (FN). Their plans have been written down and agreed upon in the The Hague Energy Agreement (Haags Energieakkoord, 2018). Together with the knowledge partner Overmorgen, the municipality has collaborated with the partners through the tool of the Energie Transitie Atlas (ETA). The ETA is a geospatial tool that helps local authorities to make decisions for the energy transition based on technical, real government, policy and energy related data input. Two sets of focus criteria have determined that are important for the selection of focus neighbourhoods with the best context to start the implementation phase of the heat transition (Hengelaar, 2018). The first criterium is acceleration potential, which is determined based on the presence of housing corporation property, upcoming gas infrastructure replacement and available local heat sources. Secondly, focus criteria are determined based on the type of technology (HT/LT DH systems and all electric), income levels and the presence of broad citizen initiatives. Based on these criteria two types of neighbourhood policy have been selected: focus neighbourhoods with municipal leadership and focus neighbourhood with partner leadership. In the neighbourhoods with partner leadership, these partners are energy companies, corporations, citizen initiatives or the municipality related NGO 'Duurzaam Den Haag'. In the partner leadership neighbourhoods, the municipality and Duurzaam Den Haag still provide active support and process assistance (Hengelaar, 2018). For the city of the Hague, the following focus neighbourhoods have been selected (see table X).

Regie gemeente				Corporatie bezit		
	Dominante oplossing*	Sociaal-economisch	Initiatief bewoners		Gasnet vervanging*	Bron**
Regie gemeente						
Mariahoeve	HT net	Laag-midden inkomens		39%	Gehele wijk	Afhankelijk LdM
Zuidwest	HT net	Vnl. lage inkomens		62%	Gehele wijk	Afhankelijk LdM
CID	HT net & innovatie	Laag-midden inkomens		31%	Deel wijk	Geothermie
Focuswijken partners						
Koningsplein e.o.	Innovatie	Laag-midden inkomens	Ja	11%	Gehele wijk	Onduidelijk
Noordpolderbuurt	Innovatie, HT & LT net	Vnl. lage inkomens		38%	Deel wijk	Afhankelijk LdM
Moerwijk-Oost	HT net	Vnl. lage inkomens		73%	Gehele wijk	Afhankelijk LdM
Statenkwartier / Scheveningen	Innovatie	Midden – hoge inkomens	Ja	16%	Deel wijk	Onduidelijk
Vogelwijk	Innovatie & LT net	Hoge inkomens	Ja	2%	Beperkt deel wijk	Onduidelijk
Ypenburg	HT net	Midden – hoge inkomens	Ja	24%	Niet	Geothermie & deels LdM
Vruchtenbuurt	LT net en innovatie	Midden – hoge inkomens	Ja	4%	Deel wijk	Onduidelijk

Table X. Focus Neighbourhoods and characteristics in The Hague (Copied from Hengelaar, p31-32).

What is remarkable is that in most of the neighborhoods the gas-infrastructure needs to be replaced and that high temperature DH-systems are the most suitable solution here. Another striking aspect is that the source for heating in many cases depends on the outcome of the Leiding door het Midden (LdhM), the pipeline that will transport waste-heat from the Port of Rotterdam. Another point is that most districts with citizen initiatives have medium to high income, have a more diversified set of preferred heating solution options and do not or only partially depend on the LdhM. The municipality thus takes a diverse approach with a varying degree of leadership and varying amounts of influence in designing the transition for involved stakeholders like citizen initiatives.

In Mariahoeve the municipality has a leadership role. The envisioned technology is a high temperature (HT) DH-system, income levels are low to medium, there is no broad citizen initiative, relatively large housing corporation property, the gas infrastructure needs to be completely renewed and the possibility exists to connect the neighbourhood to the LdhM. Although the most feasible technology is a HT DH-system, some buildings are already suitable for low temperature.

Within Mariahoeve the municipality targets four central stakeholder groups for which there is a tailor-made approach: the condominium associations, the housing associations, the companies and societal institutions and individual home owners.

Programmabrief Duurzaamheid 2020 (2019)

In the Nota Duurzaamheid it has been decided that there will be an annual update on the program sustainability and energy transition, to accompany the budget for the program. This elaboration on the program energy transition is presented in the program letter energy transition (Programmabrief Energietransitie 2020, 2019) The budget will be covered in **section 1.3**.

In 2020 the city-wide energy plan will be finalised. This includes the neighborhood energy plans and clarity where the execution of the plans will start. The executive plan for the energy transition in 2020 contains: a summary of all actions taken to establish a renewable energy system, all projects to retrofit buildings and generate renewable energy, an approach for non-residential buildings and actions to target houses and apartments.

This will include a draft of the main energy infrastructure, sources and DH-systems, a vision with goals, conditions and a plan to make the transition affordable for all types of home owners, and a concrete starting point of the renovation work. Furthermore, a roadmap will be developed for each district detailing when and where a neighborhood energy plan will be finalized, what feedback has

been received from the neighborhoods and description of the concrete impacts of the climate agreement and RES.

In the neighborhood energy plans this city-wide energy plan will be translated into concrete action. These plans contain an overview of the envisioned energy mix, how it will be constructed and financed, what this means for inhabitants and owners and in which ways inhabitants and companies are/can take part of the implementation. Companies and inhabitants are involved in drafting these plans. Small scale information events will be organized in which specific plans for the neighborhood will be discussed, the decision-making will be explained and how stakeholders can participate.

In Mariahoeve, Binckhorst, Ypenburg, Zuidwest and Moerwijk the execution plan for the renovation of 16.000 houses will be finished in 2020. Large public non-residential buildings surrounding central station make energy efficiency plans in 2020 in the framework of the Energierijk Den Haag program. In 2020 the municipality will also hire sustainability brokers that support housing associations, condominium associations and tenant associations with decision-making and creation of public support.

The first geothermal power plant at Leyweg will start to provide 1200 houses with geothermal energy in 2020. Three other geothermal projects are being prepared. In Mariahoeve a pilot project with aquathermal energy from the water distribution pipe will be started in 2020. Three other aquathermal projects are being developed in addition. Furthermore, an action plan for the LdhM will be presented. Next to energy generation there are also pilots in Mariahoeve and other neighborhoods with energy storage, e.g. with a Hot Water Battery.

In 2020 agreements are made with Eneco about how the existing DH-system can be made sustainable, most probably with geothermal energy and waste-heat. Moreover, preparations are made for the construction of new DH-systems. This depends on the guidance document that will be prepared by the national government.

Schools, sportclubs, SME's and larger enterprises receive support from the municipality through the Love your company desk (Hou van je Zaak – Balie). This provides subsidies and a limited amount of free energy scans. For individual houses the municipality continues the project sustainable roofs by supporting collective procurement of solar panels, white paint, green rooms and/or isolation. A pilot for white roofs will be started in 2019/2020 around 3200 solar panels will be put on municipal properties. Large condominium associations can get process-support and energy advice from the municipality. Next to pilots of gas-free cooking and living, funding will be made available to facilitate engagement of people with low income in the energy transition. This is done through the Condominium Association Sustainability Fund, subsidies for individual households from the Love your house desk (Hou van je Huis Balie) present in each neighborhood, free energy advice in the love your house desk and loans from the municipal credit bank for people with low income, negative credit rating or an age above 65. The winners of the Energy in the Neighborhood Challenge will receive funding for their projects.

Coalitieakkoord 2019

After the unexpected fall of the coalition in 2019, due to the corruption investigation into two aldermen from the Groep de Mos party, a new coalition agreement was written by the D66 (liberal), VVD (conservative), PvdA (labor), Groenlinks (Green) and CDA (Christian Democrat) parties. The coalition agreement for 2019-2022 in terms of participation and heating transition mostly remained the same on previously mentioned points. More elaborate descriptions are (Coalitieakkoord 2019-2022):

- Accelerated implementation of the Kadernota Duurzaamheid (previously described)
- 2030 climate neutral city target, and making 25 000 – 30 000 houses energy neutral
- No rise in rents due to housing upgrades for tenants housing associations
- Active support for citizen initiatives. Investigate how measures for lower energy bills can be linked to indebtedness in order to minimize energy poverty.
- Start with three new geothermal energy sources for sustainable and affordable local heat.
- Investigate if fiscal measures that can speed up the heating transition
- The municipality is in the lead with participation projects
- We challenge experts and citizens to propose their own development plans and stimulate debate about urban planning
- We strengthen citizen participation by making it more renowned and more accessible
- We want to introduce the livability-effect report (Leefbaarheids-effectrapportage) for new developments to get insights in (side) effects of developments on the living environment.
- There will be a roadmap participation, involvement and communication with urban development.
- For each development it is clear for the municipal council and city when participation and decision-making moments take place.
- The rights of tenants will be improved, and the condominium-association desk will be expanded to also include tenants.

Ontwerp Stedelijk Energieplan (Draft City Energy Plan) 2020

The Draft City Energy Plan (DCEP) contains the most important ingredients to kick-start the transition from fossil to renewable energy in the city. The goal is to use less and renewable energy. The document clarifies the pre-liminary choices of the municipality for the type of preferred heating solution in the city and explains on a general level how participation will take place. In the letter attached to the plan the alderman announces to open a dialogue with citizens in the city districts, the housing associations, the active citizen initiatives, companies and other stakeholders. In relation to participation the Draft City Energy Plan (DCEP) governments that (Van Tongeren, 2020c):

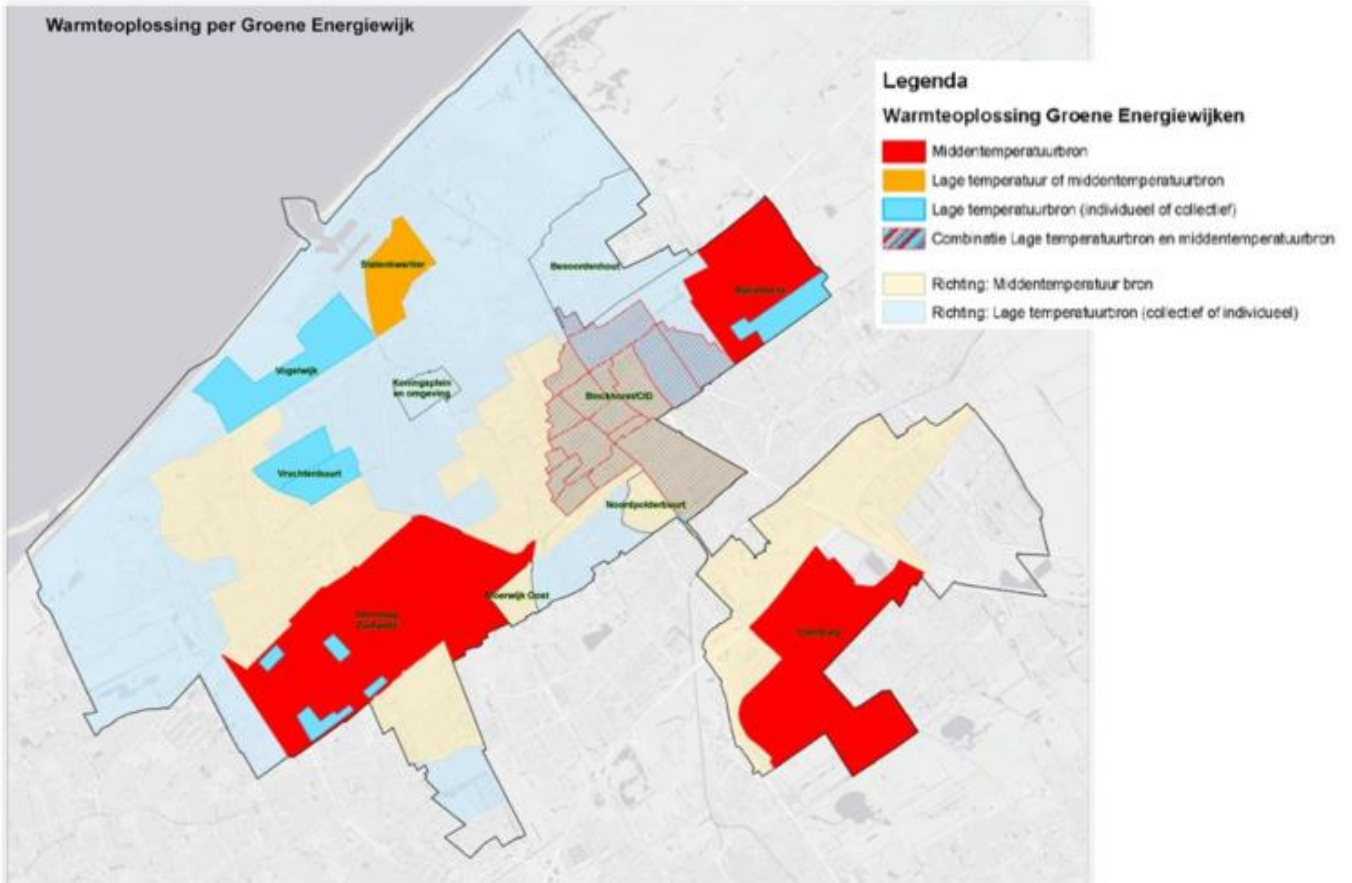
- The municipality collaborates with all home-owners and citizens initiatives that want to make the transition to a sustainable built environment.
- The municipality is open and honest about uncertainties and the aim is to inform involved stakeholders properly and in time.
- In Mariahoeve and other green energy neighborhoods the municipality has already started with writing the neighborhood energy plans.
- To bring the plans further, the municipality organizes participation trajectories with the inhabitants. We provide everyone with the chance to think along and support many initiatives.
- ‘We are transparent and trustworthy’. We are open and honest about what is possible and what not. The municipality is transparent about interests and strive for mutual trust. Stakeholders we inform timely about chances, choices and costs.
- We provide means where the market is not ready yet to take its own initiative.
- Citizens participate in the heating working group and The Hague Energy network which have as goal to keep each other informed of new developments and opportunities for collaboration.
- Participation. The municipality is in the lead with writing the energy plan. Together with stakeholders a decision will be made about the most favorable energy solution. This depends on the wishes of local inhabitants, presence of heating sources, networks, building typology

and more. Based on this information, together with technical and financial aspects and the preferences of owners, the best route will be made. Together with Sustainable The Hague we give people the tools to think with us and contribute.

- Mariahoeve is a neighborhood which requires heating on a medium temperature that can be provided with a collective heating system. For 10% of the houses there is also possibilities for individual and LT solutions. The Dunea water pipe can be used in the medium-long term.
- Conversations have been held with citizens in Mariahoeve like representatives of VvE's, citizen(initiatives) corporations and companies. They have declared the intention to change their real government so their buildings can be heated with heat from a DH-system. The municipality will continue to work out the plan with involved stakeholders.
- Neighborhood initiative fund will be established to support initiatives of risky projects to receive national funding. The fund helps to invest in promising ideas to financially feasible opportunities.
- A pilot to make houses ready for low temperature will make 50-100 buildings transition ready.

Regarding the energy infrastructure the DCEP governments (Van Tongeren, 2020c):

- The Energy Opportunity Map is the starting point for making the neighborhood energy plans (see **Appendix X**). The preferred technology for Mariahoeve is largely a HT and partially LT DH-systems. This choice will be the starting point for making a transition vision as intended in the climate agreement. Data from Stedin and PBL confirms that isolation, local available heating sources and collective heating solutions are the best way to provide sustainable heating (see figure below).



- Before end 2021 each city makes a transition vision. Which includes the plans of sources and the order in which neighborhoods be renovated and receive new heating infrastructure.
- The energy opportunity map shows the options that can be applied on the short term. In the end the heating solutions for neighborhoods will consist of an integral mix of systems that are linked like geothermal, storage, waste-heat, aqua-thermal energy and all electric for medium and low temperatures.
- Network needs to be made suitable for sustainable heat – like geothermal heat. Gasunie will judge providers in terms of affordability, trustworthiness and sustainability, besides technical requirements like temperature and pressure.
- Sustainable local initiatives always get precedence when providing heat to households in The Hague.
- Independent management of the LdhM by Gasunie.
- Affordability of heating is an important factor which will be assured by the authority for consumers and markets. Eneco strives to keep tariffs below the average of large providers in the Netherlands.
- Eneco will report annually on how the providers of waste heat work to make their processes more sustainable. Existing DH-system Eneco is 90 degrees.
- The Constant Rebecqueplein Powerplant will continue to play a role in the heating system.

Once the draft program is accepted by the municipal council in approximately June 2020, this will form the basis upon which all neighborhood plans will be made. It provides clarity to what the municipality imagines to do. In order to facilitate the heating transition in neighborhoods like Mariahoeve, a financing fund for coverage of risks with DH-systems will be made. In Mariahoeve, Zuid-West and Binckhorst the goal is to get housing association buildings transition ready and where possible connect them to sustainable sources. In Mariahoeve and Zuidwest there are opportunities to connect them to the LdhM. This is being investigated for feasible businesscases.

Appendix 16.3 – Summary Budgetary Support

Overview of the budget from 2016 – 2023.

Regnr. DSB/2015.644 RIS 290013	Tekst raadsvoorstel Besteding duurzaamheidsmiddelen 2016-2018
CO ₂ uitstoot verlagen:	
Verduurzamen woningen (aanvullend op wonen)	€6.389.000
Activeren en maatwerkadvies	€1.700.000
Nieuwe projecten en innovatie	€1.040.000
Duurzame bedrijven en evenementen	€769.000
Duurzame gemeentelijke panden	€75.000
Warmtenet groter en duurzaam	
Haags Warmteinitiatief	€1.200.000
Initiëren warmteprojecten	€1.250.000
Klimaatbestendige stad	
Stimuleren groene daken	€660.000
Haagse proeftuin	€400.000
Publieksacties, kansen en kennis	€300.000
Vertrouwen op duurzame Haagse Kracht	
Loketfunctie stadslandbouw	€375.000
Zichtbaarheid en handelingsperspectief vergroten	€855.000
Duurzaam Den Haag	€1.665.000

Figure X. Budget sustainability 2016-2018.

Making existing buildings sustainable was the largest type of expenditure the total budget of €16,678,000. It is also clear that The Hague Heating Initiative received €1,200,000, which was tasked with organizing new plans for the heating transition. Budget directly or indirectly available for support of citizens or citizen initiatives are 1) activation and tailor-made advise which supports citizen initiatives with subsidies, 2) sustainable companies and events, 3) enlarge the visibility and action potential and 4) Sustainable The Hague also receives a significant share of the budget. A total of roughly €5,000,000 is indirectly or directly spend on supporting active engagement of citizens (Gemeenteraad, 2015).

For the period 2019-2022 there is a special budget for the energy transition. For the energy transition the coalition will invest a one-time sum of €18,000,000 to achieve the target of making 25,000 – 30,000 buildings more sustainable. Of that sum €10,6 million euro will be available in 2020. On a structural level there will be €1,2 million annually. This is excluding any fund that might be available after Eneco has been sold (Gemeenteraad, 2020). No further specification of costs is provided. A basic subsidy of €500,000 is provided to Sustainable The Hague, and another €2,8 million will be reserved to support condominium associations in the energy transition.

Appendix 16.4 – Summary Influence of government institutions

The climate agreement

On 28 June 2018 the national climate agreement (Klimaatakkoord) was presented to the Dutch parliament. The agreement aims to reduce GHG emissions with 49% in 2030 compared to 1990 and 95% reduction in 2050 (Klimaatakkoord, 2018). To achieve these goals specific agreements have been made for mobility, industry, agriculture, electricity and the built environment. The agreement reached for the built environment is aimed acceleration of the heating transition. The agreement governments that 1,5 million homes need to be sustainably renovated in 2030. To achieve this laws will be changed to make the financing these sustainable renovations more attractive, funding will be made available to upscale the amount of houses that are renovated and governance agreements have been made (Klimaatakkoord, 2018). Essential to the governance of the heating transition is the role of the municipality, which has to facilitate a neighborhood-focused approach.

The national government has provided technical-economic model to which allows to compare different heating solutions in terms of societal costs. This will allow the municipality to select the most cost-effective neighborhoods. Secondly, a set of guidance documents has been provided so the municipalities can update the model and tailor it to local circumstances. This will help them to write the plans required for decision-making, the transition-vision heating and the execution plans on neighborhood-level. In the Program Gas-Free Neighborhoods (PGFN) the government provides concrete examples of how the heating transition can be combined with other local aspects, like sewage renewal, to facilitate integral urban planning. The program supports municipalities with making transition visions for the future heating system, which detail how buildings will be sustainably heated in the future, and the translation of this vision into concrete actions at the district and neighborhood level. Furthermore, the Regional Energy Strategies (RES) will result in agreements about sustainable heating sources on a regional level and how municipalities and other stakeholders can share sources amongst each other.

Furthermore, a heating expertise center (Expertise Centrum Warmte – ECW) will support municipalities on the technical, economic and sustainability aspects so they can formulate plans and prepare the start of the heating transition.

A cornerstone for the transition is social acceptance. Early involvement of the stakeholders in and around neighborhoods and a well-designed participation process will contribute to qualitatively better decision-making and can help to foster the social acceptance of the measures. Therefore the importance of good public participation has been added to the Environment and Planning Act. The transition vision heating and the RES will mostly be made up by municipal programs and plans, to which the Environment and Planning Act is applicable. The participation process needs to be clearly explained, authorities need to explain how stakeholders have been involved and what the results are. Municipalities can decide how they organize participation, because they know the local circumstances best. The communication is essential for participation. Three types of participation are mentioned in the climate agreement: national, in the RES and in the neighborhood. National communication material can be applied in the local context, and examples come forth out of the PGFN. Together with stakeholders the municipalities make a transition vision heating with a timeline for execution of the plan. They also show and compare the plan with alternative energy infrastructures in terms of societal costs and integral costs for end-users (Klimaatakkoord, 2018).

In order to make climate policy a success, the following ingredients should be there in order to create public support:

- a balanced division of costs and benefits;
- regular monitoring of citizen perspectives by the Social and Cultural Planning Office;
- a broad public engagement based on concrete action perspectives for citizen;
- citizen dialogues by national participation organizations (Nationaal Platform Burgerparticipatie bij Omgevingsbeleid, Buurkracht, HIER klimaatbureau);
- participation in the RES through timely and good information provision and local participation facilities (e.g. knowledge, independent process guidance, financial support). The guidelines RES will detail this approach, and €2.5 million euro will be reserved for the development of the RES.
- Participation in the neighborhood focused approach. All best practice examples indicate that more communication between stakeholders and between the municipality and stakeholders.
 - The choice for the ‘right’ participation method (e.g. inform, voice-concern, consult or co-produce) depends on the socio-cultural make-up of the neighborhood. Profiles are made up in the gas-free neighborhood program.
- Participation in the generation of renewable energy

In order to facilitate the neighborhood-focused approach (NFA), the Environment and Planning Act will be developed, the energy law will be changed so municipalities can decide when gas-delivery will stop and the Heating Law 2.0 will contain a framework for market ordering for DH-systems.

The national government will provide €150 million between 2019 – 2022 to support decentralized governments. It is still unclear how extra execution costs will be covered (Klimaataakkoord, 2018).

Online Portal – Helping Hand Participation (Handreiking Participatie)

The portal links to all information about participation related to sustainable energy projects on land. It contains general information and detailed information about participation in the policymaking and energy project. The assumption behind the portal is that on an aggregate level each participation process has similar stages. In general, policymakers can best involve the social environment as early as possible. Claiming that participation is the holy grail for public support is too simplistic, but most of the time participation improves the quality of the decision-making and the acceptance (when people are timely and effectively engaged) (Handreiking Participatie, 2019).

The platform differentiates between ‘policy participation’, related to the policy-making process and ‘project participation’ in the context of concrete energy projects. In principle the municipality is responsible for the organization of policy-participation, while the initiator of specific projects is responsible once an energy project becomes concrete. Policy participation is facilitated through the guidelines of the climate agreement, the RES and the Environment and Planning Act. In the phase of policy participation the initiative does not have to be concrete, there might even be multiple initiatives, and there might not yet be a location selected yet. In this phase it is important to involve the local government. In this phase there is more room for changes than in project participation.

With project participation, the design of participation becomes the main responsibility of the initiator of the project. From that moment we define the participation as “project participation” and the initiator is responsible for the participation during the rest of the project, and potentially with the design of financial participation. Every project is different, and therefore requires a tailor-made participation process. Therefore it is, again, important to involve the social environment as early as possible. The role of the public authorities, the initiator of the project and the surroundings thus changes over time.



Figure – changing roles in energy projects

Participation in projects can be subdivided in two: process participation, and project participation. The process relates to information sharing, consultation, workgroups ect. Within the Planning and Environment Act the judicial framework and requirements for this type of participation are written down. Next to obligated participation, design and financial participation can help to increase public support. With financial participation there is a difference between ‘passive participation’ and “active participation”. In case of passive participation part of the revenues will be used to support the local environment (e.g. environment fund, discount on energy bills, obligations or the construction of high speed internet cables). With active participation are not only financial benefits, but also financial burdens involved. For example when parties collaborate in the development, construction and exploitation through energy cooperatives. In the climate agreement the ambition is formulated to have 50% local ownership for energy generation. It is not specified whether this also applies to heating infrastructure. In case of design participation, the participants can change the plans for the project.

On the platform various supporting documents and information sources are provided. This includes behavioral codes for: wind on land, sun on land, acceptance and participation geothermal energy, and a participation guide wind on land. A special tool has been developed to guide the project participation in case of solar and wind energy (ParticipatieWaaier, 2019). Furthermore, the Authority Financial Markets reviews these processes.

The Heating Law 2.0

On the 3 July 2018 the first chamber, the senate of the Netherlands, accepted the new heating law but immediately announced a revision (Tempelman & Van den Berg, 2018). In the heating law it was clear that the municipality plays an essential role in structuring the heating market, but it did not indicate which roles were reserved for DSOs, municipalities and provinces. After questions in parliament, the minister provided answers, which will be discussed below.

Letter to Parliament: Law trajectory of the heating law 2.0

The Dutch minister of Economic Affairs and Environment informed the parliament on 20 December 2019 about the progress in the law trajectory for the heating law 2.0 (Wiebes, 2019b). The minister argues that fundamental change is required in the Dutch heating regulation for collective heat systems the goals formulated in the climate agreement have to be reached. Important aspects are market regulation, tariff-regulation, sustainability, supply adequacy.

The minister argues that for most of the built environment, collective heating is the most cost-efficient option to transition from gas-heated buildings to CO₂-free alternatives. Under the right circumstances collective heating solutions provide a CO₂-free alternative to residential heating with

gas. However, sector specific regulation is required. The current heating law is mostly aimed at customer protection, with specific rules for supply adequacy and maximum tariffs. The main targets of the heating law 2 is to address the development of collective heating systems.

Heating is a relatively complex product with various quality parameters. Integral management is required to let heating systems function optimally. Connecting different heating systems can be difficult, and DH-systems have monopolistic characteristics, due to the dependence on one or a limited amount of heat sources. Consequentially, the establishment of an “open” market for heat sources is not plausible. This stresses the importance of sector specific measures addressing the affordability, reliability and sustainability of collective heating systems is important.

Fundamental changes are required and municipalities will have a leading role in the sustainability transition of the built environment. Municipalities get the qualifications to determine the alternatives for heating with natural gas. The neighborhood specific approach will determine what and when new systems will be realized. This process will result in, amongst others, a transition vision heating, a implementation plan and a participatory process with citizens and other stakeholders.

The municipality determines what is the best heating alternative for gas. The heating law 2.0 aims to facilitate the efficient realization of collective heating systems, when the municipality decides that this is the best solution. In the current situation there are no clear decision-making procedures and no insight in the financial repercussions of collective heating systems. Simultaneously, heating corporations face high expectations and an unfavorable investment climate in which it is uncertain whether they can earn back their investments in newly constructed collective heating systems. This situation requires a fundamental change in the roles and responsibilities in the heating market. A new ordering of the market is imagined where municipalities are in control based on neighbourhood specific approaches and where heating companies are more assured regarding their income. The public interest will be protected, where necessary, by national applicable regulations. The main characteristics of the heating law are (Wiebes, 2019b):

1. The municipality decides, within a clearly demarcated national regulatory framework and with the support of the national government, for which area (the “Heating Parcel”) a heating company will be assigned.
2. The heating company has the duty, by law, to provide a sustainable, cost-efficient and reliable collective heating system within a heating parcel. The heating company will be responsible for the complete heating supply-chain, from production to distribution.
3. There will be the possibility to designate a heat distribution system operator by the national government, for exceptional situations in which the municipality cannot reasonably be expected to take a leading role to coordinate large scale heating sources.
4. The new tariff methodology will be more cost-based. This will provide consumers with security that they will not pay more than to be reasonably expected. Companies will be assured that they can earn back their investments and make a reasonable profit.
5. National norms for affordability, sustainability and supply adequacy will in principle be applicable per heating parcel.
6. There will be a transition regime for existing collective heating systems.

More specifically, the municipality will determine the size of the heating parcel. The outcomes of the transition vision heating can be used as a guideline to draft these parcels. Important considerations for deciding on the size are : sufficient availability of sustainable heating sources and technical-economic opportunities to create a self-sustaining and robust heating system that can be exploited within the parcel. National guidelines will be created to guide this process. Municipalities can

collaborate to create a shared parcel in case local or regional collaboration makes more sense. The province will get a reviewing role in this process, whereby they will review if the size of the parcels is in line with the national guidelines. Furthermore, the municipality gets the authority to appoint a heating company per parcel in case they have decided that the parcel will be exploited through means of a collective heating system. The municipality can appoint these companies based on a transparent tender procedure that will be defined in the heating law 2, in which public and private companies can participate. Next to the role of the municipality, the role and responsibilities of the heat provider and DSO are also defined in relation to sustainability, supply adequacy and costs.

Possibilities for small-scale systems are currently being investigated. This will allow for the right scale level, and give public authority the possibility to determine the direction of the heating transition. The growth of knowledge and capacity at municipalities is an important concern. It has become clear that municipalities face large challenges due to the complexity of the decisions at hand. Next to clear rules and procedures for how to determine the right parcel size and to select a heating company. The support for municipalities will go through the Heating Expertise Center (ECW), which will incorporate lessons learned from municipalities (Wiebes, 2019b).

The Planning and Environment Act

According to the minister of internal affairs the Planning and Environment Act (PEA) will be implemented on 1 January 2021 (Van Veldhoven, 2019). Participation is a cornerstone of the PEA. The law will define how, when and who can participate in policy formation and project development. In the Green Deals program a broad coalition of stakeholders from the policy field, energy sector and civil society have developed a framework for participation in sustainable energy projects (Rijnveld & Van Schie, 2019). The motivation for this Green Deal is that the energy transition is not going as fast as anticipated, and to clarify how participation will be organized within the PEA. The document is partially based on principles of procedural justice and refers to Wilcox when claiming that there is no 'one-way' of participation because different contexts require different approaches and intensities (Rijnveld & Van Schie, 2019). The PEA allows local governments and project initiators a lot of space to design of the participation process, for which the framework is a guidance.

The idea behind the PEA is to create less rules and more involvement of citizens with spatial planning. Timely involvement of stakeholders is necessary and protection of the environment will become a shared responsibility for local authorities, companies and citizens. Within the PEA, four instruments exist with minimum participation requirements. These instruments are the environment vision (omgevingsvisie), environment plan (omgevingsplan), the project decision (projectbesluit) and the environment permit (omgevingsvergunning).

The environment vision contains the headlines regarding the quality of the physical living environment (linking water, environment, nature, landscape, mobility, infrastructure and cultural heritage), the headlines of the development plans, use and maintenance of the environment, and the policies that are relevant. There is an obligation to motivate the establishment of the vision, "where by its clarified how citizens, companies, NGOs and governing bodies are involved in the preparation and which results this lead" (Rijnveld & van Schie, 2019, p6). Here usually organized groups of advocates are participating.

The environment plan: Municipalities make a plan that includes rules for the physical living environment on a local level. The plan is a translation of the societal challenges formulated in the environment vision. Provinces and waterboard also create such plans. The municipality can set rules in this plan in the form of: allowing or restricting certain activities in specific areas, can set directly applicable rules, create permit-plaint for specific activities, maximum values of substances (like

smell), stress outer-plan activities for which participation and collaboration with third parties is obligated to get a permit, changing the rules of the environment plan (in case of projects with high public value).

In order to make an environment plan, the municipality needs to make this known to the public. The municipal council will decide how citizens, companies and others will be involved. When a plan is accepted, it needs to be clear how citizens, companies and others have been involved in formulating the plan. The participation is different in each project, and the municipality has a motivation duty to produce a report stating how participation was designed and what it contributed.

Project decision for the realization of complex spatial projects, the project decision has been added to the PEA. A project includes all activities that change the physical environment. The project procedure required to arrive at a decision includes: informing about the aspiration, informing about participation, exploration, defining the preferences, project decision. Participation is included in the following aspects of each step:

1. With informing about the aspiration about a project decision, the decision-making body declares how stakeholders are included in the preparations. Stakeholders should be allowed to suggest solutions for the challenge, and the decision-making body should review these.
2. In case of renewable energy projects there is almost always a private initiator. In such a case the decision-making body and the initiator make an agreement about the role each takes. In the informing about participation is further defined who will be involved, about what, and when. What is the role of the initiator and the decision-making body, and where and when new information is made available.
3. In the exploration the decision-making body investigates various solutions for the challenge presented. Stakeholders can ask the decision-making body to consult an expert on their solution.
4. With the choice of preference the exploration phase comes to an end. The decision-making body is also obliged to motivate the decision, in which is explained how stakeholders have been involved and what they contributed.
5. In the final project decision is clarified how stakeholders have contributed to the process and how they have been involved. It also clarifies which solutions have been suggested.

Environment permit The initiator of a project needs to clarify if, and how participation has been implemented and what have been the results of that. The decision-making body uses this information to arrive at an informed decision. The initiator is responsible for organizing participatory processes. How this is done depends on the project decision.

Participation in the PEA is organized based on procedural justice because feeling of (in)justice are an important reasons if projects are accepted (Rijnveld & Van Schie, 2019). The design of participatory processes has two goals of which one is related to content and improvement of the quality of the project, and the other to create a just process which can strengthen the legitimacy of projects. When a participation process is designed, various criteria need to be taken into account. These are subdivided between process criteria (giving a voice, respectful and honest treatment and process information) and content-related criteria (Distributive justice, knowledge base and responsibility)(Rijnveld & Van Schie, 2019).

-Distributive Justice relates equal division of costs and benefits, not only the initiator should profit. An often used way to achieve more distributive justice is a regional fund, or other forms of financial participation. This is initially a voluntary process, but the decision-making body can set additional requirements.

-Trust in knowledge base – the knowledge base is a broad set of information related to an energy project within a local context about which stakeholders agree with each other. In case of disagreement, a report-battle between opposing perspectives can cause doubt. A process of joint-fact finding can help to achieve a shared knowledge base. Other forms are shared information requests at experts and the development of reflexive monitoring (where individuals do measurements themselves – e.g. related to sound or shade)

-Responsivity – relates to the degree to which initiator and decision-making body receive, interpret and respond to signals from the environment. It is important that something is done with the input of participants. This is explicitly not the effect on the final decision, but how their input is integrated in the decision-making process.

-Giving a voice – in the form of sharing worries, thinking about changes and even deciding about investments. The decision-making body has to show how they used this input within the decision-making process.

-Respectful and honest treatment – when people are treated respectfully, they have more trust in the process. Everyone should be respectful towards one-another. An independent process mediator can support this.

-Process information – has to do with the procedural side of the decision-making process. Most citizens never have to do with formal spatial-decisionmaking processes or participation. Clear information helps people to understand what kind of situation they find themselves in. Clear information about the following subjects helps: decision-making procedures in the present and past, the goal of the participatory process, the duration of the process (including planning and decisive moments), how decision-makers think, who else participate and what they represent, what happens with the input from stakeholders, which roles the various participating parties have.

Rijnveld & Van Schie (2019) also describe recurring questions related to participation that surround the necessity of the project, social tension, the distrust for policymakers and the need for acceptance of skills and knowledge present in citizen initiatives in local governments. A step plan is provided to design a participation process which includes the abovementioned indicators. Next to this guideline, where the work of Rijnveld & Van Schie (2019) can be found, the online platform “Aan de slag met de omgevingswet” provides an inspiration guide with instruments, practical tools, methodologies and practical examples related to participation for municipalities.

In summary, the PEA provides a structure for local authorities to organize participatory processes for spatial planning projects. This will be an important law for development of DH-systems. The expected growth of these systems is only possible with public support, for which participation in the PEA will be required (Tempelman & Van der Berg, 2018).

Regional Energy Strategy

In order to achieve the emission reduction of 49% mentioned in the climate agreement, regional tailor-made solutions for energy generation, distribution and storage need to be implemented (Lammers, 2019). The Netherlands has been divided in 30 energy regions, of which each regional RES program will formulate a strategy to implement the deals made in the climate agreement related to electricity and built environment. The RES is a way to establish long term collaboration between all regional stakeholders for the planning and implementation of energy related projects. The RES is thus an instrument to plan the spatial-planning of the energy transition and generate public involvement (Lammers, 2019). The RES is also part of the local and environmental planning policies

(omgevingsbeleid). Furthermore, the RES is a product in which for each region which targets are met in which timeframes and which approach is used. In March 2021 at the latest, each region will have formulated a RES1.0.

One of the four main considerations for the RES is societal and administrative support. The aim is to have the broadest possible support for the measures proposed in the RES. To achieve this various stakeholders have to be involved.

To support the local authorities involved in the RES, a 'RES guideline document' (Handreiking RES 1.0) has been published by the national program. This guideline document has a chapter specifying how participation in the RES is possible (Lammers, 2019). Within this document two types of participation are defined, direct participation and indirect participation.

Indirect participation can take place through the involvement of elected officials in the RES formation, for example municipal council members, provincial council members and water board members. They have the capacity to influence the participation process, who are involved in the process and set boundaries to the process. Furthermore, they have a representative role where they can voice concerns of their electorate.

Direct participation, on the other hand, relates to direct involvement of citizens, societal organizations and companies. The guideline governments that is it important to consider why stakeholders need to be involved and how the process is designed. Goals for direct participation are acceptance of the measures in the RES, quality of the decisions made, public support for the measures of the RES and to give stakeholders the feeling of co-ownership of the RES (Lammers, 2019). Each of these goals requires a different participation strategy and design. If the aim is acceptance, for example, the focus should be on informing and communication about why the RES is necessary and how it will be organized, whereas an approach aimed at public support requires an additional focus on allowing people to contribute to the formulation of plans.

The guideline document recommends to make stakeholder analyzes, work with expectation management, continuous information sharing and involvement of local policymakers. Furthermore, it advises to differentiate between participation in processes of decision-making and participation in projects. There require different participation approaches (Lammers, 2019).

Every municipality in the Netherlands needs to formulate a transition vision heating document (Transitie Visie Warmte) which relates to the RES and where a timeline is made for when and how neighborhoods will be made sustainable. For the formulation of this vision participation is required. The RES guideline document refers for support and guidelines to design these processes to the Program Gas-Free Neighborhoods (Programma Aardgasvrije Wijken – PAW) (Lammers, 2019). Finally, the document refers to organisations that can help with designing participation strategies like the 'participation coalition' (Nature and Environment Federation, Energy Together, Energyloketten, HIER, Buurkracht and LSA inhabitants) and the expert pool from National Program RES.

The Program Gas-Free Neighborhoods

The inter-institutional program Gas-Free Neighborhoods (Programma Aardgasvrije Wijken – PAW) was established in where the Ministry of Internal Affairs, the Ministry of Economic Affairs and Climate, the Interprovincial Dialogue Platform, the Union of Waterboards and the Association of Dutch Municipalities work together with the aim to support municipalities in the best possible way to realize a gas-free built environment (PAW, n.d.). The goal of the program is to learn and share best practice in order to design and upscale the district-approach to make the built environment

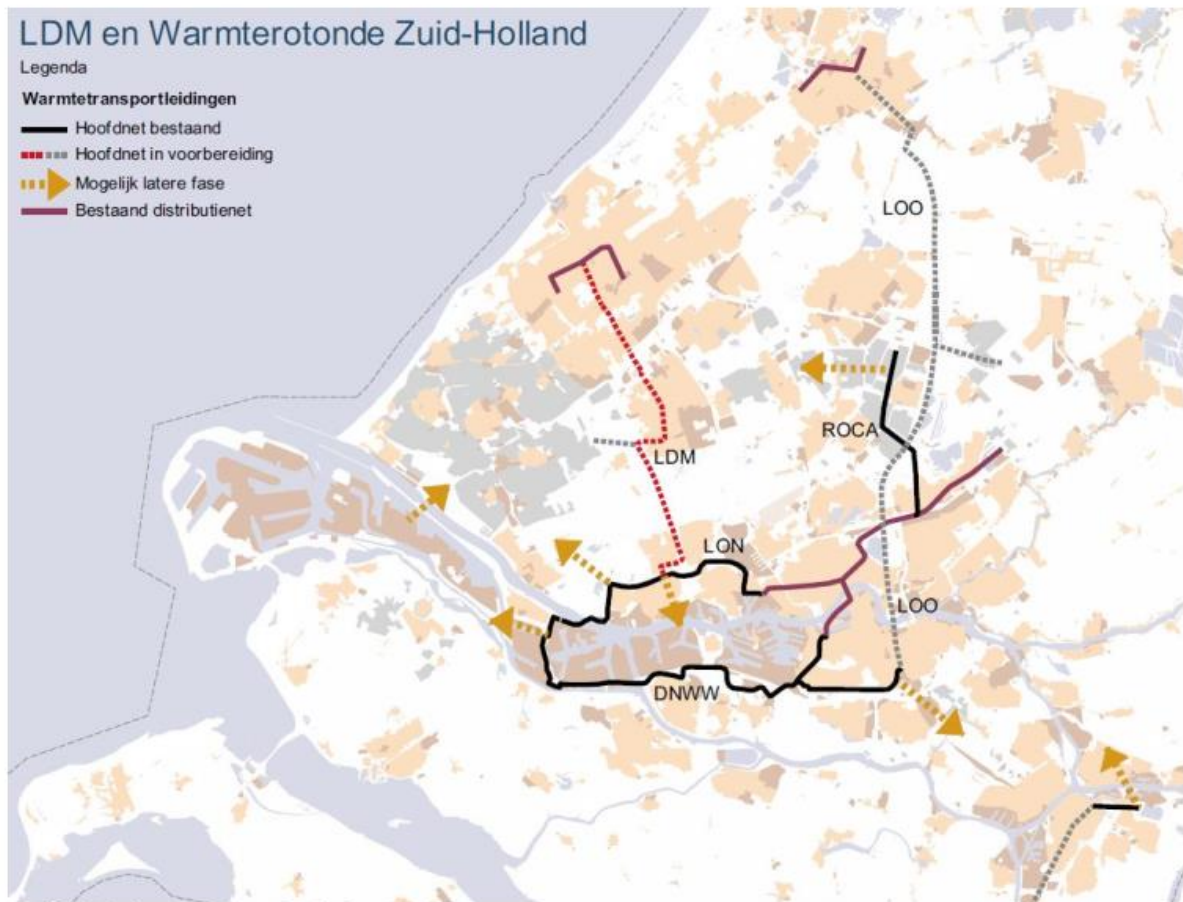
sustainable. This is done through the knowledge and learning program (KLP) and large scale pilots (Proeftuinen). The KLP has the goal to support municipalities with the formulation of transition vision heating and the neighborhood implementation plans. Guidance and information is shared related to governance, finance, technology, legal aspect and participation and communication. A 7-step guideline is provided for the transition vision heating and an 10-step guideline for the neighborhood implementation plan (PAW, n.d.)

The 7-step guideline for the transition vision heating stresses the importance of making an action plan in collaboration with essential stakeholders (KLP, n.d.). This action plan should detail shared goals, ambitions, expectations related to governance structure, clarification of roles, decision-making moments and power. Furthermore, a clear description of the participation process should be included which details how citizens, home-owners and others are involved in the process. Examples of methodologies are information evenings, workgroups, citizen panels and other forms. It needs to be clearly governmentd what the roles of participants are, what will happen with their input and when they can contribute. The resulting document details also which houses will be made sustainable first, before 2030, and what alternative heating sources will be used. The transition vision heating need to be adopted by the municipal council before 31 December 2021.

A 10-step guideline specifically tailored to the design of a communication strategy and participation process is available to municipal policymakers to support them with making the neighborhood implementation plans (KLP2, n.d.). These neighborhood implementation plans translate the transition vision heating into concrete action on a neighborhood level. Involvement of inhabitants and other local stakeholders is paramount. The first step of the guideline covers essential policy choices relating to linking heating policy to other projects in the neighborhood. Furthermore, internal and external role division is essential, for example between municipal council members, aldermen and policymakers, but also with stakeholders and citizens. The influence of stakeholders in the process must be made clear for different phases of the , according to the guideline, which refers to Arnstein's participation ladder for inspiration (KLP2, n.d.). The guideline details how the team working with participation needs to focus on internal processes and presence of sufficient skills, time available (FTE), and interdisciplinary skills from especially the team-leader. Often most attention goes to finance and technology, while the communication and participation time demands are underestimated (KLP2, n.d.). Another important theme in the guideline is democratic collaboration. Central values in the participation process should be inclusion, transparency, deliberation, checks and balances and ownership. The team should ask itself whether these values are reflected in the participation process. Assuring procedural justice is essential, and the team must review whether procedures are implemented correctly and results of participation are clearly communicated. Hereby the municipal council plays an important role in terms setting guidelines for participation and determining decisions can be made by the municipality and which by citizens and other participants. Next to policy choices, organization and democratic values the guideline gives concrete examples on how to communicate. Central to communication should be a clear position of the municipality, uniform framing of the message, a sense of urgency, provide concrete examples of how sustainable buildings and cooking is possible and let people experience this, and showing citizens there is public support for the measures (KLP2, n.d.).

The rest of the document specifies how to do stakeholder selection, how to differentiate between different types of citizens and how to address and select stakeholders.

Appendix 16.5 – Summary decision-making process LdhM



Source: Van Tongeren (2019c).

In 2011 utilizing waste heat from the port of Rotterdam as a potential heating source is mentioned for the first time in The Hague Energy Vision 2040 (Van Tongere, 2020). A first step in the decision-making process for the LdhM was made in In 2013 the college of mayer and aldermen in The Hague signed a collaboration agreement about sustainable heat and cooling South Holland. Ever since, the utilization of waste heat from Rotterdam in The Hague occurs in scenarios related to the energy transition, various policy documents and back-cast studies and. In 2016 the LdhM became more concrete because Eneco designed a businesscase. In 2017 the Mayer and Alderman mention the LdhM as part of a proposal to transition to sustainable heating in 2040 (Van Tongeren, 2020).

In the coalition agreements of 2018 and 2019 requirements have been set by the municipal council in The Hague for the LdhM. These focus on the independence of the operator of the pipeline and stress the priority of local heating sources. In early 2019 Eneco created a separate private limited company for the LdhM project, in order to transfer it to an independent party. At this stage, the company also requested the Province of South Holland to start a provincial coordination procedure for the permits of the LdhM. In September 2019 the Ministry of Economic Affairs and Environment declared Gasunie will function as independent system operation, besides that it would invest 90 to 100 million euro in the project (Van Tongeren, 2020). In response, Eneco transferred the LdhM project to Gasunie, an independent government-owned enterprise. The Province declared until late 2019 that it would only start the provincial permit coordination procedure if all municipalities would have agreed upon this.

At this stage of development, relevant stakeholders of the initiator Eneco, the province of South Holland and Gasunie.

Point of contention has been the provincial integration plan for the LdhM. Eneco has requested the Province to start a provincial coordination procedure for the permits of the LdhM in early 2019. If this would be accepted by the Provincial Council, the municipality of The Hague would still have the authority to give the permit, but the province will have the authority to draft an implementation plan (bestemmingsplan) for the pipeline, which will have to be integrated in the plans for the environment in all municipalities that the pipeline traverses. A consequence of that situation would be that the Provincial Council would have the authority for this process instead of the municipality, although municipal council-members could still influence the process. In November 2019 it became clear that the Province would not wait for acceptance of the municipality of The Hague, based on the assumption that The Hague would agree. However, the municipality had not taken a decision about whether the requirements it had set for the LdhM had sufficiently been fulfilled by Eneco and Gasunie. The alderman Van Tongeren informed the Province of South Holland that such a procedure was undesirable and requested the Provincial Council to wait with such a decision until early 2020 when the municipal council could take a decision recently provided information by the initiators Eneco and Gasunie (Van Tongeren, 2019).

In November 2019 Eneco and Gasunie provided a letter (RIS 304144) in which it explained how they will comply with the requirements of the municipal council (Van Tongeren, 2020). The province of South Holland provided information regarding the permit procedure surrounding the LdhM project. Initially, the municipality wanted to discuss this information within the municipal council.

In late November became clear that the Provincial Council did not intend to wait on the municipality of The Hague, and wanted to proceed with starting the procedure already based on the assumption that The Hague would agree anyway. Therefore, the college of alderman did not have sufficient time to wait until after the meeting with the commission environment early 2020 (Commissie Leefomgeving) in order to take a decision. On 11 December 2019, the commission members of the municipal council in The Hague have been informed about the decision from the college of mayor and aldermen that the LdhM complies with the requirements of the municipality, one week before it would be discussed in the provincial council, and the elaboration on why that is the case (Van Tongeren, 2020).

In the subsequent meeting of the municipal council in December regarding the project, technical questions were asked by council members regarding the LdhM and its impact on participation. These were answered in early January, after which a meeting of the commission living-environment took place. In this discussion issues were raised regarding the impact of the LdhM on participation in the Heating Transition in The Hague by various stakeholders.

Technical questions about the LdhM in relation to public participation

After the decision from the college of Mayor and Aldermen regarding the LdhM in December 2019, the municipal commission for environment received a short presentation about the plan, and asked 194 technical questions (Van Tongeren, 2020b). A selection of these questions relevant for Mariahoeve in terms of participation and the influence of the municipality on the heating transition is presented below.

Question 15 from the CU/SGP related to participation and ownership relate to whether citizens will be able to (financially) participate and if local initiatives can 'feed heating back' to the system (Van Tongeren, 2020b).

- In response, the municipality quotes Eneco which indicates to work on models for financial participation for customers, with a focus on participation in the context of local heat sources. “Feeding back” is a term known from the electricity sector, which is not 1 to 1 applicable to heating. Eneco has open networks at the source, meaning that if providers have heat available, Eneco can buy this and feed it into the system when this has a positive contribution to the heat service and the central values of sustainability, affordability and supply adequacy.

Question 16 relates to how citizens are involved in the decision-making surrounding the LdhM.

- The municipality indicates that the procedure 3.4 of the general administrative law (Abw) is applicable to the decision-making process. This means that citizens can voice opinions and concerns against the draft-implementation plans and draft permits. Additionally, citizens can appeal implementation plans and permits at the “Raad van Government” (Council of Government) when they are identified as stakeholders. As such, it is formally assured that citizens are involved in the decision-making process. Furthermore, citizens are free to voice their concerns through informal channels (Van Tongeren, 2020b).

Questions from the CU/SGP and GL relate to how the transport through the LdhM and the distribution of heat will be arranged in The Hague, what type of heat will be delivered to households, who will supply, whether it will be affordable and how financial participation will be arranged, and how the requirements for local sources and sustainability will be guaranteed (Van Tongeren, 2020b).

- The Mayor and Aldermen will come with a city energy plan which will sketch the contours of options. Energy is a liberal market where various firms can compete with one-another to deliver the heat to customers. GasUnie, the operator of the LdhM is 100% public, and thus in hand of the public through the National Budget. They are only involved in transport and not involved at the distribution level of heat or the generation of heat. All parties will be able to deliver heat to the LdhM if they comply with the technical and environmental requirements. The LdhM and the independent operation of this pipeline will be included in the heating law 2.0. Affordability is assured by the Autoriteit Consument en Markt (ACM). The heating law 2.0 will probably use a new methodology to calculate maximum tariffs which will be verified by an independent authority. Transport tariffs through the LdhM will be managed by the heating law 2.0, just like the governance, qualification and competences of local authorities and citizens to make use of the pipeline.
- Per neighborhood there will be different requirements for housing insulation. For neighborhoods on 70 degrees houses will need a minimum insulation label C (the higher the better). With geothermal sources and the LdhM a DH-system is required comparable to the existing DH-system owned by Eneco and currently operated at 90 degrees. New and extended DH-systems will operate on 70 degrees. The temperatures of the existing grid will gradually be lowered to this temperature. In these neighborhoods cascading is imaginable: after households have been heated at 70 degrees, heat leaves the households at 40 degrees through a retour-pipeline. This can be used in other buildings where electric upgrading will assure hot tap-water. In the future neighborhoods, heating-pumps are optional, which use local riothermal or geothermal energy and upgrade this energy to 70 degrees. Neighborhoods on low temperature require better isolated buildings (minimum label A, the higher the better) with low temperature radiators and wall/ceiling/floor heating heating can guarantee heating up to 30 degrees. This can be achieved per individual building or collectively. Citizens can choose between individual solutions or collective systems.

- Regarding the existing DH system Eneco governments to strive to make the existing network 70 / 40 degrees. For this they partially depend on the isolation-level and cooling of buildings. New distribution networks and extensions of the existing grid will be made on 40/70 degrees. The municipality repeats that Eneco is open towards financial participation in heat-sources and distribution networks. However, financial participation in heating is relatively new, and no standardized propositions or constructions exist, like with wind and solar. In Utrecht Eneco is working with Energy-U to make participation in heating possible. The ambition is to start a pilot this year. Furthermore, the municipality, Eneco and other are continuously discussing how the parties can guarantee that Eneco becomes climate neutral in 2030 in the The Hague Energy Network. (Van Tongeren, 2020b).

The HSP (Haagse Stadspartij - the The Hague City Party) asked how the municipality guarantees that the producers of heat are becoming more sustainable and whether the college of Mayor and Aldermen perceive fossil waste heat as sustainable to assure climate neutrality in 2030.

- The municipality replied by stating that the Heating Law 2.0 will know mechanisms by which the municipality can set requirements for the concessions for “heating parcels”. Furthermore, the Mayor and Alderman are in a continuous dialogue about these developments within the The Hague Energy Network. The municipality gets responsibilities in determining the heating-parcels in context of the heating law 2.0. In addition, the college follows the national government and takes the BENG-3 requirements for waste heat, that would otherwise be thrown away, as climate neutral (Van Tongeren, 2020b).

Presentations during the commission meeting living environment related to public participation

In a presentation during a meeting of the commission living environment from the municipal council on January 8 2020, former council member Joeri Oudshoorn argued in favor of local heating sources and a LT-heating distribution system in The Hague (Oudshoorn, 2020). Within his presentation, he stressed the impact the LdhM potentially has on local initiatives and citizen participation.

Within the presentation Oudshoorn argues that it will be difficult for Eneco to give precedence to local heating initiatives as promised. He governments that there is already sufficient waste heat available in The Hague from the Uniper power plant at the Constant Rebecqueplein, which makes the pipeline redundant. Oudshoorn does not believe that Eneco will provide local initiatives precedence due to political and financial pressure on Eneco to buy the waste-heat. Furthermore, he argues that the LdhM creates an unequal playing field in the heating market which with disadvantages for local sustainable sources and initiatives. Because the government already invested 90-100 million euros in the pipeline, it will have to deliver base-load to close the business-case according to Oudshoorn. “This money is basically a subsidy” (Oudshoorn, 2020). The temperature in the pipeline will be high (70-120) which will make it difficult for local, e.g. geothermal, sources to connect without upgrading the heat to the right temperature. The additional investment in heat pumps to do this affect the business case, besides the fact that these sustainable sources will have to pay for the electricity and generate extra emissions in the process. Waste-heat from fossil corporations in the Port of Rotterdam will be able to provide the waste-heat at marginal costs. The emissions related to actually producing the heat are not accounted for in the price of the heat delivered in The Hague. Therefore it will be difficult for local sustainable sources to compete with this type of waste heat.

LT-DH-systems have the benefit that in addition to being more sustainable, it helps with cooling demand which is a growing concern. Therefore, Oudshoorn believes investments in LT are better. Additional critique from Oudshoorn centers around the fact that the heating distribution system in The Hague owned by Eneco will have a high temperature of 70 degrees. In his views, the distribution

system should be subject to the same requirements as the LdhM. The Hague has sufficient sources and generation capacity to supply its own heat.

Presentatie Uniper

At the same commission living environment meeting the company Uniper gave a presentation stressing the importance of LT-heating sources and precedence of local sources (Groeneveld, 2020). The argumentation was centered around the danger of base-load heat delivery by the LdhM and how it endangers the business case of local sources. In case of LdhM base-load, sustainable local sources will only be able to provide during the colder months, which worsens their business case. Moreover, there are already existing assets, organizational capacity and know-how that the municipality should use. Uniper argued in favor of an open network that can let multiple players connect and compete to reduce costs, and assure back-up capacity through the power plant and the ground-linked heat exchanger that Uniper owns at the Constant Rebecqplein. Collaboration over the complete value chain will be required (Groeneveld, 2020).

Presentation Sustainable The Hague

Project manager from the heating working group of Sustainable The Hague Lennart van der Linde gave a presentation on 8 January 2020 about citizen heating initiatives in The Hague and the LdhM. The heating working group grew from 3 initiative in 2016 to 18 in 2020, has focused on knowledge sharing and building regarding sustainable heating solutions and focused on developing a bottom-up vision on heating through the heating manifesto and the report for hybrid DH-systems. Van der Linde stressed the focus on local heating sources and LT-heating solutions in the climate pact, the coalition agreements and the heating manifesto.

In 2020, the potential of LT-DH heating systems is not yet sufficiently researched. Referring to the study of Schilling et al. on hybrid DH-systems (2019) there is potential for local source, opportunities for freedom of choice and organic growth of heating systems from neighborhoods – as potential starting points (Van der Linde 2020). Risks are complexity of governance, supply adequacy and costs and comfort. Based on this information, Sustainable The Hague concludes that a local HT-LT scenarios is technically feasible. However, unclarity exists regarding the costs, risks and emissions of this scenario. Furthermore, it should be clarified under which pre-conditions LT and HT-DH systems can('t) complement each other. Another point is that a environmental impact assessment or a societal cost benefits analysis can further specify how sustainable waste heat is.

For a robust heating vision with broad public support van der Linde believes that an additional sensitivity analysis into costs and emissions is required, besides pilots with LT-heating sources to gain insights how these sources work in practice.

Citizen initiatives would like the municipality to clarify specific issues (Van der Linde, 2020):

- Should buildings be made sustainable in 2030 or 2040?
- What are the sources for DH-system on high or low temperature, and does the LdhM present a risk of an opportunity?
- Will LT-retour infrastructure know individual or collective distribution of heat?
- How much insulation is required, necessary and affordable?
- What are costs and risks, how does financing work, to what extent can citizens be involved, who directs the formulation of the heating vision?
- There is demand for more intensive collaboration with the municipality, Eneco and the municipal commission of the living-environment.

Appendix 17: Public Participation

Table Overview Public Participation The Hague Energy Network

Category of Public participation	Program Administration	Purpose	Stance	Methods	Information	Phase
Sub Categories Present	Written Plan Staffing	Government perspective Combined perspective	Participation	Inform Consult	Type Channel	Initiation Preparation Participation Continuation
Elements Present	Comprehensive document Disseminated to the public Staff External consultant	Finding preferences Build institutional capacity	Information Consultation	Spreading / sharing Information Presentations at meetings	Summaries of Plan Elements Newsletters Presentations at meetings	Triggers Program - Administration Purpose Stance Methods Information Evaluation

Table 1 Public participation elements HEN

Table 2 Overview Public Participation Heating Working Group

Category of Public participation	Program Administration	Purpose	Stance	Methods	Information	Phase
Sub Categories Present	Written Plan Staffing	Citizen perspective Combined perspective	Substantial Participation	Inform Consult Involve	Type Channel	Initiation Preparation Participation Continuation
Elements Present	Comprehensive document Disseminated to the public Staff	Stimulate Civil Society Representative input	Deciding together Acting together	Spread of Information Agency Information Meetings	Summaries of Plan Elements Vision Statements	Triggers Program Administration Purpose Stance Methods

	External consultant	Integrate local knowledge Build institutional capacity	Supporting independent community interests	Public Hearings Focus Groups Educational Workshops Workshops & Subcommittees	Summaries of Participant Input Social Media Website Newsletters Presentations at meetings Videos	Information Evaluation
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Table 2. Public participation elements of the HWG

Table 3 Overview Public Participation Frontrunner Group

Category of Public participation	Program Administration	Purpose	Stance	Methods	Information	Phase
Sub Categories Present	Written plan Staffing	Government Perspective Combined perspective	Participation	Inform Consult		Initiation Preparation Participation
Elements Present	Staffing External Consultants	Find preferences Build legitimacy Integrate local knowledge	Information Consultation Deciding together	Spread of Information Neighborhood meetings Drop-in centers (Focus groups)	Summaries of Plan Elements Newsletters Presentations at meetings Articles in local newspaper	Triggers Program Administration Purpose Stance Methods Information

					Videos	
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Table 3. Public Participation elements frontrunner group Mariahoeve.

Appendix 18: Analysis of Energy Justice

Appendix 18.1 – Energy Justice Perceptions in the Institutional Context

1. Energy justice related to Mariahoeve in the institutional context

In discussions about the heating transition in the institutional context of Mariahoeve various justice claims have been made. Because a large part of Mariahoeve will probably have the LdhM as a heat source, the justice claims and concerns in the recent debates surrounding this topic are relevant in the context of the participatory process in the district. The document from which these justice perceptions are derived have also been discussed in sections **XX and Appendix XX**. First, procedural justice claims are covered, followed by distributive justice and justice as recognition.

Procedural justice

In terms of procedural justice most claims and concerns related to subcategories “access to decisionmakers”, “communication of information” and “impartiality”.

Access to decision-making concerns were voiced in the presentation of Sustainable The Hague and questions from municipal council members. The municipal council members from the CU-SGP asked “Do citizens get the option to (financially) participate and is [heat] delivery back to the system possible?” in addition to “can [heat]consumers financially participate in delivery” (Van Tongeren, 2020b). Moreover, the party asked the alderman “How and when are citizens involved in the decision-making process” (Van Tongeren, 2020b). This illustrates that municipal council members have concerns about the type and form of influence stakeholders and citizens will have within the heating transition. **Besides questions from municipal council members, the representative of Sustainable The Hague who coordinates the HWG indicates that “there are requests for more intensive dialogues between municipality, Eneco and the commission in the municipal council [amongst the citizen initiatives]” (Van der Linde, 2020). This suggests that the access to decisionmakers could be facilitated better.**

In relation to *communication of information* there are justice concerns amongst stakeholders in the city because there is still uncertainty about what type of infrastructure will come, how it will be governed and what they can do already. This is clear in the numerous questions of municipal council members regarding the type of heating infrastructure, the technical consequences of the LdhM for house owners and the governance of the infrastructure (van Tongeren, 2020b). Furthermore, Van der Linde also asked similar questions on behalf of citizen initiatives related to the type of DH-system, the delivery of heat in LT-systems, the costs and risks and the participation of citizens (Van der Linde, 2020). This indicates the understandability of the plans of the municipality is not sufficient.

Concerns about *impartiality* are voiced in the presentation of Oudshoorn and the presentation of Uniper (Oudshoorn, 2020; Groeneveld, 2020). The justice claims about impartiality are all directly or indirectly related to the LdhM and can be subdivided in two groups: one group of claims that relates to the impartiality of the National government and the municipality of The Hague, and the other related to the impartiality of the energy company Eneco which owns the existing DH-system in The Hague which will probably function as central heat distribution system, or ‘backbone’.

The new LdhM heating pipeline that will be constructed and operated by GasUnie will deliver waste heat from the Port of Rotterdam to The Hague, which can have an effect on the development of local heating sources in The Hague. The concerns about impartiality are related to the involvement of the

national government and the interests of the municipality of Rotterdam in this project. In the presentation of Oudshoorn it is stressed that *“The National Government [Rijk] pays for the investment of the LdhM”* within a context of *“Unfair competition of heat from the LdhM”* (Oudshoorn, 2020). This claim relates thus to the impartiality of the National government, which according to Oudshoorn has a clear preference of a heating solution that might affect the heating transition in Mariahoeve. Within the presentation of Uniper special slides were dedicated to stress that the municipality of Rotterdam was not impartial in its policymaking regarding the Rotterdam municipal heating company, and that this had significant negative financial and political consequences there (Groeneveld, 2020). The message seems to be to urge the policymakers in The Hague not to make the same mistakes, and that Groeneveld has concerns that this is not happening enough right now. Furthermore, on his final slide Groeneveld mentions under *“Points of attention”* that the municipality should involve a *“competent institution (Rekenkamer) for an integral and independent evaluation of the LdhM casus”* while asking the municipality to look at the LdhM *“objectively and look seriously into alternatives”* (Groeneveld, 2020). This seems to suggest that there are concerns that this is not happening enough. Next to questions about the impartiality of governmental institutions, Oudshoorn raises concerns about the impartiality of Energy company Eneco. Eneco has been the initiator of the LdhM project and owns the existing DH-system in The Hague. It has promised the municipality to give local sources precedence on its HT distribution network but Oudshoorn does not believe that this will happen. *“Eneco promises precedence of local sources... but local sources do not get the subsidies that the LdhM receives, the LdhM businesscase is not feasible without base-load heat delivery and the situation even gets worse with LT-networks [if they receive base-load heat from the LdhM]”* (Oudshoorn, 2020). The insinuation is that Eneco makes a promise that it will not be able to keep. Because the company has a commercial interest and *“the political and financial pressure on Eneco to purchase waste heat is big”* (Oudshoorn, 2020), he does not believe it will be impartial when providing access to local sources. This is relevant because local stakeholders and heat providers can participate in the local heating market when they have access to the infrastructure owned by Eneco.

Distributive Justice

Multiple claims and concerns are related to distributive justice of which concerns are related to *outcome fairness*. Overall, two themes of justice claims can be recognized in relation to outcome fairness: first the sustainability of waste heat and secondly unfair competition. The first issue relates to the sustainability of the waste heat that will be transported through the LdhM. This is apparent in the technical questions asked by the CU-SGP party which asked the alderman *“What is the CO2 intensity of the production in the Botlek-area compared to the CO2 intensity of the powerplant at the Constant Rebecqueplein?”* (Van Tongeren, 2020b). This shows that concerns exist regarding how sustainable the waste heat actually is. Van der Linde concludes as well that further research into the sustainability of waste heat is required (Van der Linde, 2020). Mr Oudshoorn argues in his presentation that *“fossil waste heat will not be considered sustainable in the future”* and *“a fossil heat source is now CO2 free. As a consequence sustainable sources now are unjustly portrayed to result in small improvements”* (Oudshoorn, 2020). What these concerns have in common is that they relate to fairness because it would be unfair to characterize something as CO2-free if it is not. A second aspect related to free emission rights that fossil companies in the Botlek area could get. The CU-SGP party asked the Alderman whether *“ETS installations get free emission rights based on delivered heat? Are there instance of double counting? Both the heat consumers and the heat producer claim CO2 emission rights?”* (Van Tongeren, 2020b). The party voices a concern about the fair accounting of emissions related to heat that will be transported through the LdhM. Oudshoorn expresses the same concern in his presentation stating *“CO2 emissions from fossil waste heat are not accounted for in the industry nor the households that consume the heat.”* (Oudshoorn, 2020). He claims that as a consequence *“In Rotterdam the CO2 emissions are*

absolved twice” (Oudshoorn, 2020) through free emissions rights through the ETS and because households that use heat with emissions are not accounted to do so. This is unfair because *“The waste heat from The Hague produced in the Uniper power plant does account for emissions in The Hague, whether we use it or not”* (Oudshoorn, 2020). Thus, the claims related to outcome fairness relate both to whether the heat is actually sustainable and how it is being accounted by the authorities.

Secondly, unfair competition is theme that is referred to regularly. Van der Linde (2020) refers to it indirectly by stressing the request from citizens in the heating manifesto for a level-playing field, in addition to the focus on low temperature(LT) heating solutions in the climate pact and the precedence of local sources mentioned in coalition agreements of 2018 and 2019 and the energy agreement. He continues to ask, in name of the citizen initiatives in the HWG, what the opportunities and risks related from the LdhM are and requests further research into how low and high temperature DH-systems can complement each other (Van der Linde, 2020). It indicates that there are concerns about how the LdhM will affect the precedence of local sources and the level playing field for local sources. Groeneveld from Uniper and Oudshoorn refers to this more explicitly. Oudshoorn indicates that *“heat delivery [from the LdhM] is tax free, while LT solutions in homes that use electricity or green gas are being heavily taxed. Therefore the comparisons that the municipality presents are biased against LT solutions”* (Oudshoorn, 2020). He claims that *“the tax advantage of large users is unsustainable in a system in which energy must be efficiently stored and exchanged”* and that currently gas taxes are 26 times higher for individuals and electricity taxes 187 times compared to large users (Oudshoorn, 2020). This would create unfair competition of certain solutions over others. He continues to state that the LdhM will deliver heat the whole year and in that way *“pushes local sources out of the market”* because *“the payback time doubles and the business case deteriorates for local sources”* (Oudshoorn, 2020) while they do not receive the subsidies from the national government that the LdhM does receive in the form of the investment it made in the LdhM project. The same argument is made by the representative of Uniper, who states *“the feasibility of local heat sources is under pressure”* in case there will be LT-networks in combination with the LdhM (Groeneveld, 2020). Another concern about unfair competition relates to the nature of the DH-system, especially if the distribution system in The Hague will be open or not: *“Choose for an open network to which multiple players can connect”* and *“low temperature and precedence is essential for the realization of local heating projects”* (Groeneveld, 2020). Both Oudshoorn and Groeneveld thus voice concerns about the feasibility of local heating projects due to unfair competition with waste heat from Rotterdam. Finally, Oudshoorn stipulates that the requirements that currently apply to the LdhM are not applicable to Eneco, which owns the DH-distribution network in The Hague. He states that *“The distribution network of Eneco should comply with the same requirements as the LdhM”* (Oudshoorn, 2020).

Regarding *outcome favorability* are related to temperature of the LdhM and the distribution system and its governance, the effects the LdhM might have on isolation of houses and cooling demand, the feasibility of local heat sources and the capacity of the municipality to enforce its requirements. The CU-SGP party asked the alderman *“How will the precedence of local sources with lower temperature be designed? How is the open character of transport and distribution designed in order to assure that local renewable sources can be connected and provide heat?”* (Van Tongeren, 2020b). This indicates that there are concerns about how the LdhM can negatively affect the outcome of the heating transition in The Hague for local sustainable heat sources. The same concern is voices by Uniper which urges the municipality to choose for *“open networks to which multiple stakeholders can connect. This results in competition and thus heat for the lowest societal costs. Collaboration in the complete supply chain in necessary”* (Groeneveld, 2020). Oudshoorn also stresses that the LdhM will *“diminish the feasibility of local heat sources”* (Oudshoorn, 2020) because they will not be able to provide heat year-round. Moreover, he claims that a *“monopoly of Eneco with a very high temperature backbone prevents*

collaboration between citizen initiatives” (Oudshoorn, 2020). There are thus concerns about the feasibility of sources as well as concerns about freedom of choice and the ability for local stakeholders to collaborate due to the LdhM. Another unfavorable outcome mentioned is that the LdhM in combination with a HT distribution system does not take cooling demand into account. “Cooling demand is increasing because of climate change and isolation of buildings, which has the consequence that they become too hot in the summer. The big difference between LT-DH-systems and HT systems is that LT-systems can provide cooling and store the excess heat during summer for usage in the winter. HT-systems force household to take individual solutions for cooling demand. Extra installation of air-conditioning is unnecessary with a heating pump that delivers cooling. “Prevent double investments” by choosing low temperatures directly (Oudshoorn, 2020). The concern is thus that in the current plan the cooling demand is overlooked and that households will have to make double investments, which is an unfavorable outcome.

Finally, there are concerns that in the current plans the municipality cannot guarantee enforcement of its requirements, like the precedence of local sources. “The requirements of the municipality are not judicially binding” and there are “no penalty clauses” (Oudshoorn, 2020). The underlying concern is that there is no way in which the municipality can guarantee a favorable outcome or the compliance with the requirements it has set.

Justice as Recognition

Concerns expressed in these documents relate to justice as self-recognition and distribution of responsibilities. Most claims related to justice as recognition are related to whether internal claimholders feel that their voices and concerns are sufficiently considered in addition to concerns related to the distribution of responsibilities. Van der Linde (2020) spoke in name of the citizen initiatives who actively ask to be more involved and have a dialogue with the Alderman and Eneco. This is a form of *justice as self-recognition*, because apparently they feel not yet sufficiently involved.

Uniper is currently responsible for delivering all heat to Eneco and production of electricity and “has no plans to close the power plant” (Groeneveld, 2020). The company has concerns that its interests as internal claimholder are not sufficiently recognized, which is clear because Groeneveld stresses constantly that “a conventional heat source is indispensable for supply security” and one of its final quotes “don’t throw away old shoes before you have new ones” show that the company fears to be left with empty hands in the heating transition (Groeneveld, 2020).

One of the recurring questions in all presentations, as well as in the technical questions of the municipal council members, relate to how future responsibilities will be divided between energy companies, GasUnie, the municipality, initiators of local heating sources and others. This therefore remains an important issue in the context of justice as recognition.

Table X provides an overview of the justice claims and concerns per document

Event	Justice claims and concerns	Energy Justice Category
Technical questions 12-12-2019	Concerns about sustainability of waste heat	DJ - Outcome fairness
	Opportunity to participate in policymaking and projects for local stakeholders	DJ - Outcome fairness

	Recognition of internal claimholders	JR – Recognition of claimholders
	Distribution of responsibilities in the heating transition	JR – distribution of responsibilities
Presentation Oudshoorn 08-01-2020	Concerns about impartiality of the National Government	PJ - Impartiality
	Concerns about impartiality of Eneco	PJ - Impartiality
	Sustainability of Waste Heat	DJ - Outcome fairness and outcome favorability
	Unfair competition LdhM – negative effects on feasibility of local heating initiatives	DJ - Outcome fairness and outcome favorability
	Concerns about applicability of requirements of the municipality to Eneco and the Ldhm	FJ – Outcome fairness and outcome favorability
	Concerns about cooling and double investments	DJ - Outcome fairness and outcome favorability
	No possibility to enforce requirements	DJ - Outcome favorability
	Perception of unfair process	JSR – Justice as self-recognition
	Concerns about the governance of heating infrastructure and need for open networks	JR – distribution of responsibilities
Presentation Uniper – 08-01-2020	Example Municipality Rotterdam in heating transition	PJ - Impartiality
	Need for independent and objective evaluation	PJ - Impartiality
	Unfair competition LdhM – negative effects on local heating initiatives	DJ – Outcome fairness

	<p>Perception of unfair process and the need for a conventional energy supplier</p> <p>Concerns about the governance of heating infrastructure and need for open networks</p>	<p>JR - Justice as self-recognition</p> <p>JSR – Distribution of responsibilities</p>
<p>Presentation DZDH</p> <p>08-01-2020</p>	<p>Concerns about unclarity role citizens and effects infrastructure on local initiatives</p> <p>Request for dialogue</p> <p>Request for research into sustainability of Waste Heat</p> <p>Further research into HT/LT systems complementarity and importance level playing field</p> <p>Concerns about the governance of heating infrastructure and the role of citizen initiatives</p>	<p>PJ – Understandability - Explanation</p> <p>PJ – Access to decision-making- Facilitation</p> <p>DJ – Outcome Fairness and Outcome Favorability</p> <p>DJ – Outcome Fairness and Outcome favorability</p> <p>JR – distribution of responsibilities / outcome fairness</p>

Table X. Overview of Justice Claims and Concerns in the institutional context

Appendix 18.2 – Energy Justice Perceptions in The Hague Energy Network

The Hague Energy Network

Within the scope of the present study the relevant events for the HEN where justice claims and concerns have been expressed are visually presented in **Figure X**. The first meeting concerned the structure of the future heating market in The Hague and the second meeting concerned a new year reception with an update regarding the plans of the municipality for the new year.



Figure X. Events analyzed in the context of the HEN

Below the justice claims per tenet of energy justice are presented.

Procedural Justice

Procedural justice claims in the HEN related to the subcategories “influence on decision-making”, “communication of information” and “impartiality”. During the HEN meeting about market ordering many attendants had questions about the technical nature of the future heating system and the consequences for building owners. This relates to the *understandability* and explanation about how the heating transition will be designed from the side of the municipality. The municipality hosted the meeting in collaboration with important stakeholders in the heating market like DSO Stedin and energy company Eneco to provide technical explanations when required. Next to communication of information there were multiple remarks and questions about the ownership and management of the heating distribution system in the future heating market. Hereby some participants voiced concerns about the impartiality of the municipality within the heating transition and the expected mandate of the municipality to appoint heating companies in parcels of the city: “*Determining the heating parcels is a form of regulated cartel formation. What is your position regarding open DH-distribution networks?*” (Observation 1, 2019). Because the municipality will have to balance the interests of various stakeholders impartiality will probably remain important energy justice dimensions, also in the context of outcome fairness. Another procedural justice claim related to impartiality is that the participants in the network demanded that there should be an independent coordinator. This was first not the case, but the current coordinator has been installed upon request of the participants who wanted an impartial and independent coordinator (Coordinator HEN, 2020). However, during the presentation of the plans for the new year three citizen initiatives that received funding from the municipality were presenting their projects. The projects related to involving fellow citizens in the heating transition (Regentessekwartier) to upgrading the energy label of a condominium association to A (Scheveningen) to winning heat back from ventilation (Ypenburg). These stakeholders expressed and stressed their gratitude towards the municipality for that their voices had been heard and considered, which indicates that citizens can have influence on decision-making related to how the heating transition will be organized, at least on a project level.

Distributive Justice

The previously mentioned quote regarding cartel formation also relates to broader concerns about the outcome fairness of the design process of the future heating market in the Hague. Another participant asked for example: “*Could it be that The Hague will become one parcel? Because then we won't get the chance to enter in the dialogue*”. (Observation 1, 2020). This indicates a concern about the fairness as well as consideration of their opinion in the decision-making process (which belongs to procedural justice). If the municipality would define large parcels, for example, smaller initiatives would not have sufficient heating capacity, funding or expertise to compete with larger companies like Eneco when competing for the tender to provide all consumers in such a large parcel with heat. As such, the size of the parcel is related to outcome fairness.

Justice as recognition

Most claims related to justice as recognition were related to the question regarding the distribution of responsibilities in the future market. Who will define what is the right size of the parcels, who owns and manages the distribution systems, who will have access to these systems (Observation 1, 2020).

Table X provides an overview of je justice claims made in the context of the HEN.

Table with justice claims from HEN per observed event.

Event	Claims	EJ
2018-2019 Establishment of the HEN	Concerns about the impartiality of the coordinator of the HEN	PJ - Impartiality
Observation 1 – HEN : Meeting Market Ordering – 11-11-2019	Concerns about impartiality of distribution system operator in The Hague Concerns about the ownership of the distribution system in The Hague Worries about whether their concerns will be incorporated	PJ – Impartiality / DJ – Outcome fairness JR – Distribution of Responsibilities PJ – Voice / PJ - Consideration
Observation 2 – HEN : Plans for the new year – 14-01-2020	Praise for the municipal support for the projects	PJ – Voice / PJ Consideration

Table X. Overview of the justice claims and concerns in the HEN.

The importance of participation and the recognition of claimholders seems to be acknowledged by the municipality and the DSO– in the answers of a representative of Stedin about replacing the gas infrastructure he explained that *“Public support is required. The participation strategy is important. In Purmerend not every inhabitant was convinced and we needed to construct a new gas network for six people ”*. (Observation 1, 2019).

Appendix 18.3 – Energy Justice Perceptions in the Heating Working Group

Table justice perceptions HWG.

HWG Source	Claims	EJ
Heating Manifesto – 18-12-2017	<p>Call for transparency and level playing field for local initiatives</p> <p>Request for local heat and infrastructure development instead of the LdhM</p> <p>Concerns about (de)centralized governance of the heating transition and ownership of future heating infrastructure</p> <p>Concerns about the type of infrastructure, the temperature of the heat and freedom of choice</p> <p>The municipality is responsible for guarding the conditions and facilitation of the transition process</p>	<p>PJ – Process display / Transparency / Impartiality</p> <p>DJ – Outcome Fairness</p> <p>DJ – Outcome fairness / outcome favorability</p> <p>DJ - Outcome fairness</p> <p>CJ – Distribution of Responsibilities</p>
Observation 3 – HWG : DRIFT and TNO – 18-10-2019	<p>Difficulty to get permission for citizen initiatives to implement infrastructure in neighborhoods</p> <p>Unclarity about who has authority in the decision-making process about heating infrastructure</p>	<p>DJ – Outcome fairness</p> <p>JSR – Distribution of Responsibilities</p>
Consultation meeting (KBG) for city wide energy plan – 22-11-2019	<p>Concerns about whether participation is taken seriously and selective information sharing</p> <p>Concerns about lack of internal communication – also by the alderman - about plans and usage of existing knowledge and guidelines</p> <p>Unclarity about technical definition “open” networks</p>	<p>PJ – Consideration / internal process display</p> <p>PJ – Internal process display / Internal communication</p> <p>PJ - Explanation</p>

	<p>Insufficient communication about options for home owners and tenants on how to improve their homes</p> <p>Concerns about negative effects LdhM on insulation, freedom of choice and precedence of local sources</p> <p>Concerns about the non-local nature and levels of sustainability of the LdhM</p> <p>Lack of independence due to current financial dependency on municipality</p>	<p>PJ – External communication</p> <p>DJ – Outcome fairness / Outcome favorability</p> <p>DJ – outcome favorability / outcome fairness</p> <p>DJ – Outcome fairness</p>
<p>Announcement of presence Alderman at next evaluation meeting (KBG) about the city wide energy plan – 09-12-2019</p>	<p>Alderman wants to join during the next KBG meeting</p>	<p>JR – Recognition stakeholders / PJ - Voice</p>
<p>Observation 4 – HWG : Meeting with Duursaam Benoordenhout, Thermobello and EnergieSamen – 17-01-2020</p>	<p>Perception that monopolies in the heaty supply chain are problematic</p> <p>Tension between corporate and citizen interests</p> <p>Concerns about representativeness citizen initiatives</p> <p>Professionalism of citizen initiatives not recognized</p>	<p>DJ- outcome fairness / outcome favorability</p> <p>DJ – outcome favorability</p> <p>CJ – Internal Claimholders/ Recognition of Claimholders</p> <p>PJ – Consideration / JSR – Awareness Injustice</p>
<p>Observation 5 – HWG : Meeting between Citizen Initiatives and Eneco – 21-01-2020</p>	<p>Unclarity about plans Eneco and its policy towards citizen initiatives</p> <p>Concerns about trustworthiness of the municipality</p> <p>The impossibility for local initiatives to compete with Eneco</p>	<p>PJ- Internal Process Display / Internal communication / Understandability</p> <p>PJ- Impartiality</p> <p>DJ – Outcome fairness</p>

	Concerns about the requirements to connect to the DH backbone and the ownership of the main distribution grid by Eneco	DJ – outcome fairness / JSR – distribution of responsibilities
	Concerns about the degree of sustainability of waste heat and double counting	DJ – Outcome fairness / Outcome Favorability
	Concerns about freedom of choice of heat consumers for heat sources	DJ – Outcome fairness / outcome favorability

Table X. Overview of the justice claims and concerns related to the HWG.

Appendix 18.4 - Justice perceptions of Housing Associations and Eneco

Justice Perceptions of the Housing Associations

In the context of this research housing associations have provided some feedback. They indicate that their involvement in Mariahoeve is limited but that they are being informed by the municipality about progress (Staedion & Vestia, Personal communication, 2020). In relation to energy justice they made some claims in relation to communication of information, outcome fairness and the distribution of responsibilities.

Procedural justice : Communication of information

Information about the business case of DH-systems is important and should be shared (Vestia, Personal communication, 2020). For Vestia it is important to know what the costs for connection are to assess whether they will accept to be connected to the system.

Distributive Justice : Outcome fairness

Another point of importance for Vestia is that no funding is redirected from the social to the private rental market as a consequence of the heating transition (Vestia, Personal communication, 2020).

Justice as recognition : Distribution of responsibilities

All three housing associations indicate that in districts with district energy plans, like Mariahoeve, the municipality is in the lead with communication (Staedion, Haagwonen & Vestia, Personal communication, 2020). This relates to the choice for a technological solution, where the municipality must indicate in which direction the district will take.

Justice perceptions of Eneco

Eneco indicates that the company is somewhat involved in Mariahoeve. Justice claims were made by the representative in relation to outcome fairness and distribution of responsibilities

Distributive Justice: Outcome fairness

The representative stressed the importance of a fair outcome within the heating transition in Mariahoeve by stating that *“People could listen better to market parties. There is a tendency to take information from a DSO, NGO or citizen initiative automatically for the truth and the information from companies with skepticism, because companies would only want to earn money. That misses the point that market parties have a lot of knowledge that is not present at other stakeholders.”* (Eneco, Personal Communication, 2019).

Justice as recognition: Distribution of responsibilities

Eneco indicates that it is preparing to take its responsibility as energy company to facilitate citizen participation. A representative indicates that: *“We are developing a participation policy for heating. We are open for conversations with citizen initiatives, but this is in the early stages”*(Eneco, Personal Communication, 2019). The representative however also stressed complications with heating as energy form because of *“strict requirements in the heating law for heat generation and permit procedures. Supply adequacy must always be assured. As such it is more difficult to involve not-professional stakeholders than is the case with solar or wind”* (Eneco, Personal Communication, 2019).

Another complication is that *“Return on investment is lower with heating than with wind and sun and this is less interesting with small scale”*(Eneco, Personal Communication, 2019) and that there are only limited

subsidy possibilities for the development of heat sources, for example no SDE+ subsidies. The offer to collaborate with citizen initiatives and issues with heating were also expressed by the representative during a meeting with the HWG (Observation 5, 2020)

Appendix 18.5 – Energy Justice Perceptions in the Frontrunner Group

Overview Justice Claims Mariahoeve per relevant event.

MARIAHOEVE	Claims	EJ
Observation 6 – Sustainability Festival Mariahoeve - 05-10-2019	Not all condominium associations have the money to renovate	DJ - Outcome favourability
Forgotten scenario – CMAG - 25-10-2019	<p>Most policy documents refer to precedence of local sources so why is this forgotten?</p> <p>Information about carbon free local sources is not part of the assessment</p> <p>LT sources provide opportunities for local participation and ownership</p> <p>Botlek heat from Rotterdam will most probably lead to a connection obligation and a monopoly</p>	<p>PJ – Impartiality</p> <p>DJ - Outcome fairness</p> <p>DJ – Outcome fairness / Outcome favorability / justice language</p> <p>DJ – Outcome fairness / outcome favorability</p>
Observation 7 – Meeting Alternative Scenario for Mariahoeve – 12-11-2019	<p>In policy documents it is said that local and sustainable heating options should get precedence, but in practice it does not</p> <p>Policymakers have to reach targets and the inhabitants have little to say about it</p> <p>What is climate neutral 2030 and how to reach it is unclear and a sensitive issue</p> <p>Technical questions related to the gas infrastructure, costs and benefits</p> <p>50% ownership with wind but not with heating</p>	<p>DJ- Outcome Fairness</p> <p>PJ – Consideration</p> <p>PJ – Understandability / External communication</p> <p>PJ – Explanation / DJ – Outcome favorability</p>

	<p>Lack of recognition leads to social unrest and SIAs can help avoid that</p> <p>A lot of money is leaving the city to the LdhM which can also be invested in The Hague</p> <p>The municipality can stress that insulation is always good</p> <p>It is important to communicate own plans of the citizen initiatives with the rest of the neighborhood</p> <p>The planning process is already very far but the neighborhood is not informed</p>	<p>JR – referring to similar situations</p> <p>JR – Awareness injustice</p> <p>DJ – Outcome favorability</p> <p>PJ – External communication</p> <p>PJ – External communication</p> <p>PJ – External communication / DJ Outcome Fairness</p>
<p>Request for dialogue with program manager about preferred scenario - 14-11-2019</p>	<p>Interest in continuing the dialogue about the preliminary scenario upon the invitation of the municipality</p> <p>Request to include a study which has not been covered in the preferred scenario to the assessment of heating options for Mariahoeve</p> <p>Reference to policy documents describing the importance of local precedence</p> <p>Request to compare financial risks, environmental impact, social impact, freedom of choice and ownership as parameters of the assessment</p>	<p>PJ – Voice / PJ – Internal communication</p> <p>DJ – Outcome fairness</p> <p>DJ – Outcome fairness / JSR – Legitimizing concerns</p> <p>DJ – Outcome fairness / Outcome Favorability</p>
<p>Observation 8 – Visit “Hou van je Huis Winkel” – Mariahoeve – 11-15-2019</p>	<p>Concerns about effects of HT-DH system and the unfair competition of large energy companies against local initiatives</p> <p>Difficulties for the municipality to reach other groups than stakeholders</p>	<p>DJ – Outcome Fairness / Outcome favorability</p> <p>JR– recognition of claimholders</p>
<p>Observation 9 – ALV Wijkberaad Mariahoeve,</p>	<p>Concerns about who participates in the neighborhood dialogues</p>	<p>JR – External claimholders</p>

<p>presentation energy cooperative – 21-11-2019</p>	<p>Concerns about whether the opinion of people that disagree is being considered in the decision-making process</p> <p>The decision about the LdhM has already been taken by the province</p> <p>Will the port of Rotterdam generate sufficient heat in the future</p> <p>Who pays the cost when things go wrong with a DH-system?</p> <p>Concerns about impartiality of the municipality of The Hague</p>	<p>PJ – Consideration</p> <p>PJ – Consideration</p> <p>DJ – outcome favorability / outcome fairness</p> <p>DJ – outcome favorability / outcome fairness</p> <p>PJ - Impartiality</p>
<p>Observation 10 – Frontrunner meeting Mariahoeve – 28-11-2019</p>	<p>Safety of geothermal energy</p> <p>What has been the role of alderman van Tongeren in the decision-making process on a provincial level about the LdhM</p> <p>How do the people in the neighborhood have the opportunity to choose</p> <p>Unclarity about the planning timeline for renovations and the expansion of the infrastructure</p> <p>Concerns about how the costs will be divided between municipality and home owner</p> <p>Unclarity about the temperature of the DH-system and how and when will be decided what this temperature will be</p> <p>Appreciation for the fact that the scenario has been shared in the first place</p>	<p>DJ – Outcome favorability</p> <p>DJ – Outcome fairness / PJ - Process Display</p> <p>DJ – Outcome fairness / JSR – distribution of responsibilities</p> <p>PJ – Explanation</p> <p>DJ – Outcome fairness / Outcome favorability</p> <p>PJ – Explanation / Internal communication</p> <p>PJ – Voice / Internal communication</p>
<p>Observation 11 – Preparation alternative</p>	<p>Citizen interests are still not well represented in the process</p>	<p>JR – Awareness Injustice</p>

<p>scenario meeting Mariahoeve – 15-01-2020</p>	<p>Participation is seen as a communication challenge, not a recognition of the opposing interests</p> <p>Socio-economic discussions are important because Joe average will pay the price because he can't invest</p> <p>Concerns about a monopoly of Eneco</p> <p>Concerns about whether the ideas are not too abstract and the legitimacy of the group</p> <p>The neighborhood managers do not have the possibilities to organize this</p>	<p>JR – Awareness Injustice</p> <p>JR – Awareness Injustice / DJ – Outcome favorability</p> <p>DJ – Outcome favorability</p> <p>JR – Recognition of stakeholders /PJ – Explanation</p> <p>JR -Distribution of Responsibilities</p>
<p>Email sent to program team about alternative scenario Mariahoeve, 20-01-2020</p>	<p>Request for re-assessment of plans based on market and circular scenario's through existing assessment tools (EIA/SIA) including social, ecological and environmental values</p> <p>The policy tools used in Mariahoeve can be optimized based on experiences in other neighborhoods.</p> <p>Inhabitants of Mariahoeve want to take the initiative to organize an event and start an area cooperative</p>	<p>DJ – outcome fairness / JSR – Justice language</p> <p>JR – referring to similar situations</p> <p>JR – Internal Claimholder/ Distribution of Responsibilities</p>
<p>Conversation between program team and neighborhood representatives, 05-03-2020</p>	<p>The social, environmental and other impacts of the plan must be discussed</p> <p>These issues with DH-systems are present in all neighborhoods of The Hague</p> <p>More mutual understanding and an indicated that issues will be addressed internally</p> <p>Limited scope assignment program manager</p>	<p>JR – Awareness Injustice</p> <p>JR – Referring to similar situation</p> <p>PJ – Consideration</p> <p>JR_ distribution of responsibilities</p>

	Citizens want to step in and want a role in a process where the municipality cannot find the solution alone	JR – Distribution of Responsibilities
Letter sent to Alderman about alternative scenario, 06-04-2020	<p>We need the comparison of two scenarios with an EIA and SIA to integrate environmental and social values</p> <p>There are high social and financial risk if we don't investigate this in advance</p> <p>Mariahoeve is frontrunner in energy and should be frontrunner in governance</p> <p>Our call is supported by the college of national advisers</p> <p>Wish to understand what justice means for us in the context of the energy transition,</p> <p>Without further research inhabitants might pay the highest price</p>	<p>DJ – Outcome Fairness / Outcome Favorability</p> <p>DJ – Outcome favorability</p> <p>DJ – Outcome Fairness</p> <p>JR – Legitimizing concerns / Justice Language</p> <p>DJ – Outcome Fairness / Outcome Favorability</p> <p>DJ – Outcome Favorability</p>

Table X. Overview of Justice Claims and Concerns related to the Frontrunner group Mariahoeve

Requests for integral planning, voiced already during the first session, are not heard >> green, livability, ect.

Appendix 18.6 - Overview Table most important justice perceptions per analysis section

Category Justice	Institutional Context	HEN	HWG	Frontrunners
Procedural justice				
Access to decisionmaking	<ul style="list-style-type: none"> Facilitation of citizen participation 		<ul style="list-style-type: none"> Facilitation of citizen participation 	<ul style="list-style-type: none"> Positive perception representation Negative perception representation Influence province Concerns about future facilitation
Influence on decisionmaking		<ul style="list-style-type: none"> Positive perception Voice in context energy challenge 	<ul style="list-style-type: none"> Lack of consideration citizen interests Positive consideration of citizen interests in Benoordenhout 	<ul style="list-style-type: none"> Lack of voice at province Insufficient voice with frontrunner group Positive: opportunity to respond to preferred scenario Negative consideration Positive consideration
Communication information	<ul style="list-style-type: none"> Accessibility of information Understandability of technical implications 	<ul style="list-style-type: none"> Understandability technical implications 	<ul style="list-style-type: none"> Transparency and process display related to new policy documents Negative Process display in relation existing policy documents Negative process display and internal communication LdhM alderman Understandability technical dimensions Improve external communication 	<ul style="list-style-type: none"> Negative process display about preferred scenario/DH-system Not sufficient internal communication Negative Internal communication alderman LdhM Positive internal communication complexity/sharing preferred scenario Lack of external communication Lack of accessibility and understandability of (technical) information
Impartiality	<ul style="list-style-type: none"> Impartiality National Government Impartiality of other municipalities Impartiality Eneco 	<ul style="list-style-type: none"> Request for independent coordinator Impartiality municipality 	<ul style="list-style-type: none"> Impartiality municipality 	<ul style="list-style-type: none"> Impartiality municipality

Category Justice	Institutional Context	HEN	HWG	Frontrunners
	<ul style="list-style-type: none"> Need for impartial assessment LdhM 			
Distributive Justice				
Outcome fairness	<ul style="list-style-type: none"> Sustainability of waste heat / Free emission rights industry Unfair competition LdhM 	<ul style="list-style-type: none"> Determination of heating parcels Possibility of open heating distribution system 	<ul style="list-style-type: none"> Transparent market with level playing field Precedence local sources Lack sustainability waste heat Possibility open distribution system Access to the distribution system Freedom of choice heat customers 	<ul style="list-style-type: none"> No inclusion most beneficial scenario Freedom of choice Unfair competition and influence Eneco Timeline too short for heating transition in Mariahoeve Lack inclusion of social and environmental values Proposal for improved assessment based on existing policy documents
Outcome favorability	<ul style="list-style-type: none"> Temperature LdhM/ DH-system distribution The governance of distribution network Effects LdhM on insulation Feasibility of local heat sources Enforcement requirements 		<ul style="list-style-type: none"> Negative impact LdhM Lower competitiveness of local heat sources Possibility open distribution system / freedom of choice Lower insulation with HT Dh-system Freedom of choice heat customers Fair price of heat 	<ul style="list-style-type: none"> Freedom of choice Reliability and sustainability waste heat Risks geothermal energy Concerns about diivision of costs Compensation of home owners Financial consequences of LT/HT DH-system
Justice as recognition				
Community of Justice	<ul style="list-style-type: none"> Recognition of citizen initiatives as claimholders Recognition of Uniper as claimholder 		<ul style="list-style-type: none"> Recognition of citizen initiatives as heat producers Citizen initiatives as claim-addressees 	<ul style="list-style-type: none"> Insufficient internal claimholders involved Insufficient involvement external claimholders Issues with recognition claimholders
Justice as Self-recog.			<ul style="list-style-type: none"> Citizen initiatives are no laymen any more 	<ul style="list-style-type: none"> Alternative proposal for better recognition

Category Justice	Institutional Context	HEN	HWG	Frontrunners
				<ul style="list-style-type: none"> • Legitimizing concerns based on existing advices • References to similar situations in The Hague
Distr. of responsibilities	<ul style="list-style-type: none"> • Who will be responsible for management the distribution system 	<ul style="list-style-type: none"> • Distribution of responsibilities in future heating market 	<ul style="list-style-type: none"> • Municipality is responsible for managing the heating transition • Who is allowed to construct infrastructure • Who will be responsible for access to the distribution system 	<ul style="list-style-type: none"> • Municipality is responsible for managing the heating transition • Impossibility for program/district manager to fulfill responsibility • Proposal for more citizen responsibility

Appendix 19: Selection of data collection methods

Direct observation

The main difference between observation in a lab and participant observation in a social setting is that the researcher is part of the social event, instead of controlling the environment (Corbetta, 2003). This participation of the researcher also differentiates this type of social science research from interviews, surveys, document analysis or experiments where there is always a separation between researcher and the subject of research. During participant observation the researcher enters a social process in its natural setting for a period of time, and establishes connection with the members in that setting to identify, describe and understand their motivations (Corbetta, 2003).

In such context it is important to decide on the degree of involvement in the process. Within the present study the aim is to take a sceptic approach, where the researcher takes relative distance from the subjects to be studied (Corbetta, 2003). The reason for this choice is that the case-study is ongoing, the complexity and the political aspects of the case study. Therefore, high involvement with the subjects would increase the already high risk of bias. Furthermore, the researcher identifies himself as a researcher at each meeting in order to make the observation overt. The meeting reports of the researcher will be in accordance to the standards described by Corbetta (2003) and serve as evidence and are attached in **Appendix XI**. In the meeting reports, descriptive aspects of the meeting (location, setting, attendants), will be separated from the participant experience and researcher observation.

According to Jorgensen (1989), participant observation is an especially relevant tool in the following cases: when little is known about the subject (e.g. with recently formed groups), there are important differences between insiders and outsiders of a community, the phenomenon is not always visible for society outside the group, or when it is hidden from the public in general (Jorgensen, 1989). In the case of Mariahoeve three of these aspects are present. First of all, the focus on neighborhood level participation with heating infrastructure is a relatively new phenomenon, while the specific group in Mariahoeve has only been formed recently. Secondly, there exist relevant differences of opinion between citizens and more formal stakeholders in the neighborhood. Thirdly, the meetings and considerations of the group citizens in the neighbourhood are being discussed in closed meetings. Therefore, participant observation is a relevant method to gather data.

Semi-structured interviews

Besides document analysis and internet research, snowball sampling techniques were applied in order to make up the list of interviewees. In case of snowball sampling key stakeholders involved a case are asked to refer the researcher to other key stakeholders (Corbetta, 2003). For the present study, semi-structured interviews were recorded with the selected participants. Two separate question lists have been produced, with one tailored for understanding the institutional context and one tailored to understand the perceptions of people in the neighborhood of Mariahoeve.

The present study does not aim to create a pool of interviewees that are statistically representative. On the contrary, the techniques used to make up the list of interviewees is focused on substantive representativeness. In the latter, the aim is to cover social situations that are relevant for the case, and not to reproduce the characteristics of the full population (Corbetta, 2003). There are several reasons for this methodological choice. First of all, one of the aims of this research is to better understand the institutional context surrounding public participation in the heating transition. Expert knowledge is more suitable to get such understanding than less informed stakeholders. Secondly, defining what a representative sample is from the large (14,000) and diverse neighbourhood of

Mariahoeve would require a large time investments that falls outside the reasonable scope of the present study research. Third, due to the ongoing nature of the decision-making process in The Hague, the researcher encountered significant resistance in data provision, besides unwillingness to talk “on record”. The political sensitivity surrounding the topic makes it complex to create a statistically representative sample.

In summary, the exploratory nature of the present study and qualitative methods applied have their strength in in-depth understanding, generating new insights and suggesting ways forward into new research directions. The choice for these advantages comes at the cost of questions about adequate reliability and validity of the results, which will be extensively discussed in the discussion chapter.

Appendix 20: Analysis steps visualization

Institutional context

Figure 14 depicts the steps in the analysis of the institutional context will be applied.

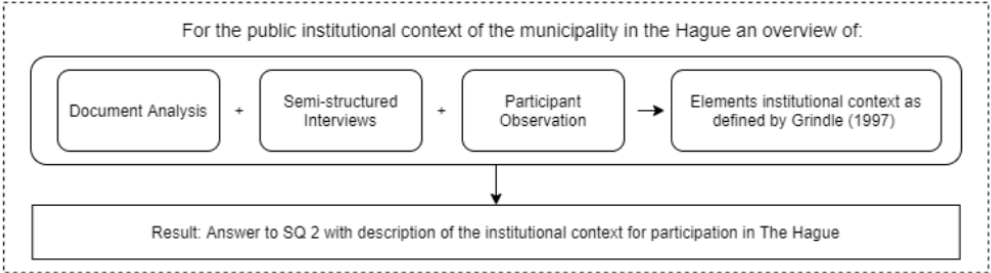


Figure 14. Steps to analyze the institutional context.

Public Participation

Figure 15 below depicts the steps in the analysis of the public participation program.

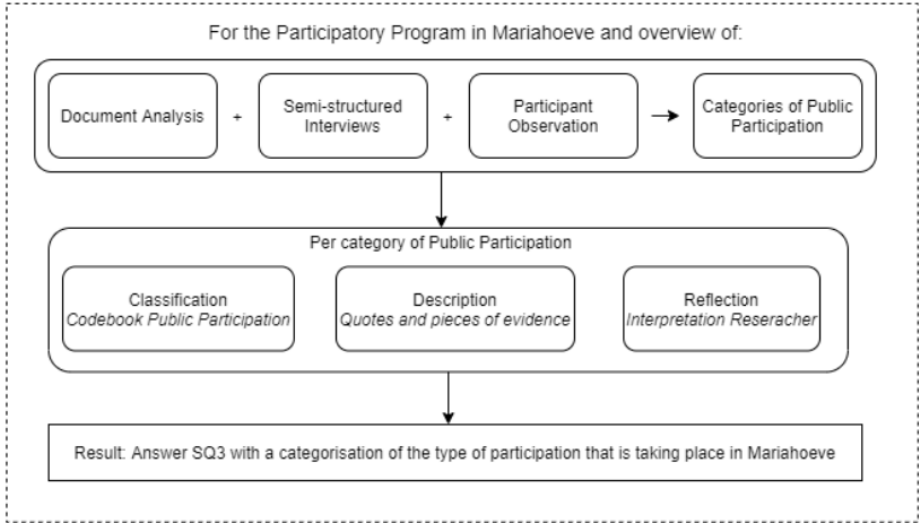


Figure 15. Steps in the analysis of the public participation program.

Energy Justice

Figure 16 indicates the steps in the analysis of energy justice, overflowing and backflowing.

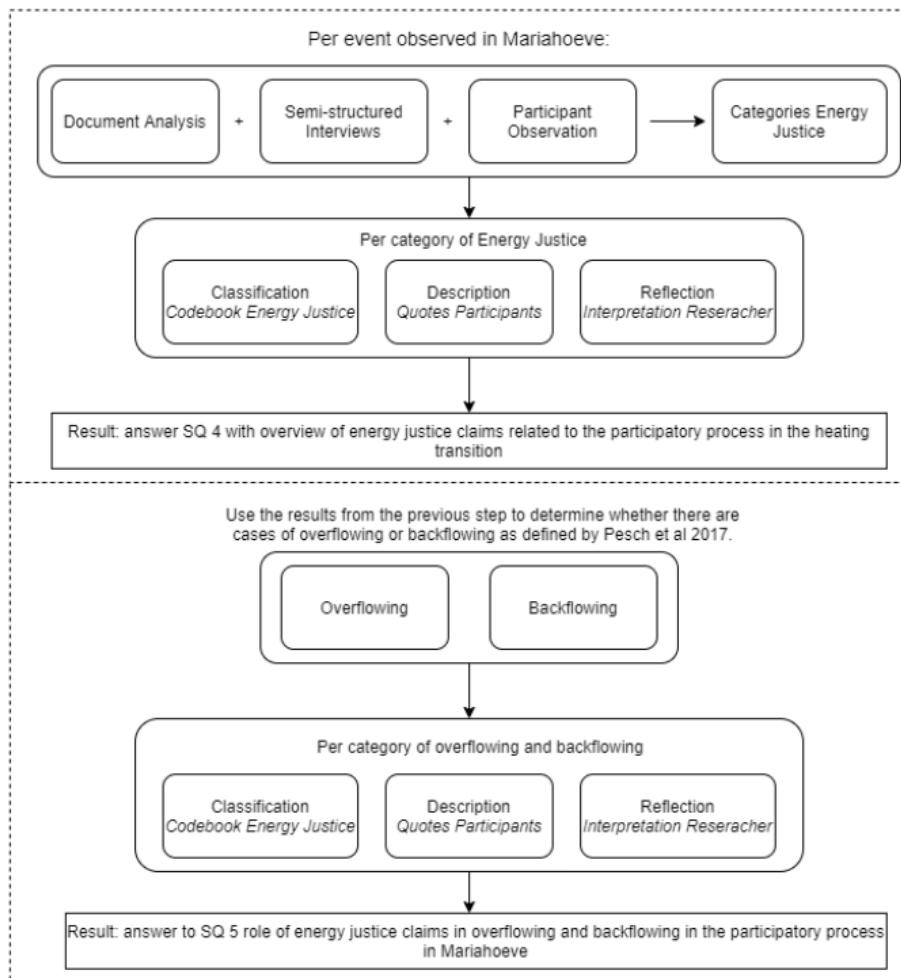


Figure 16. Steps in the analysis of energy justice, overflowing and backflowing