

# Citizen participation in Utrecht: the involvement of citizens in mitigation projects for the energy transition



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## Summary

In the context of climate mitigation, in the city of Utrecht many projects for the energy transition have originated. These projects are either initiated by the municipality, the municipality in cooperation with private parties or by citizens. In these projects citizens are also involved in different ways. It is generally accepted that public participation increases legitimacy in politics (Glucker, Driessen, Kolhoff, & Runhaar, 2013; Uittenbroek, Mees, Hegger, & Driessen, 2019). However public participation can exist in many forms and intensities. It is still unknown what the effect is of different forms of public participation on the legitimacy of these types of projects. Therefore the research question was answered: What effect does the degree of citizen participation have on legitimacy in energy transition projects in Utrecht? To answer this question two cases were chosen with different initiators and different degrees of participation. Data was collected through qualitative interviews and analysed with NVivo. In the case of the community initiative with a high degree of participation, input legitimacy was low, throughput legitimacy high and output legitimacy were medium. In the case of municipality initiative with a low degree of participation, input and throughput legitimacy were medium and output legitimacy was low. Legitimacy can be improved by increasing the level of citizen participation in municipality projects. However legitimacy does not automatically increase in both type of projects, which is important to consider since the society aims to be an inclusive society. Also, community initiatives show promising legitimacy levels, further quantitative research should be done on community research and legitimacy.

## Introduction

The summary for policymakers of 2018, which was mandated by the Paris Agreement, puts an emphasis on the potential for new climate actions regarding climate change mitigation (United Nations Climate Change Secretariat, 2018). Climate change mitigation (hereinafter referred to as “mitigation”) are actions undertaken to prevent or reduce the emission of greenhouse gasses (United Nations Environment, 2017). A wide range of actions can be undertaken to reduce greenhouse gasses; making use of renewable energies but also changing consumer behaviour (United Nations Environment, 2017). For cities, mitigating climate change is high on the agenda of dealing with climate change too (Walsh et al., 2011).

The Dutch city of Utrecht has been trying to become a sustainable city for some time now, which can be seen through its policy on sustainability because Utrecht wants to become climate neutral as soon as possible (GroenLinks, D66, & ChristenUnie, 2018). One of the key changes Utrecht wants to make is to transfer to a sustainable source of heat supply to reach the goal of becoming climate neutral. At this point one third of the CO<sub>2</sub> emissions of the city are caused by the use of natural gas for heating buildings, that is why the city wants to stop using natural gas. Also a lot of the buildings are isolated poorly and have heat installations with low efficiency which causes a high use of heating (Gemeente Utrecht, 2017). A lot of projects have started up in the context of the energy transition, especially focusing on the shift to a different heat supply. These projects have different initiators, sometimes being the municipality, citizens or businesses and organizations (Gemeente Utrecht, n.d.b). One of these projects is Overvecht-Noord Natural Gas Free (hereinafter referred to as “Overvecht-Noord”), initiated by the municipality of Utrecht and other private parties (Gemeente Utrecht, 2019c). The goal is to transition from natural gas in the northern part of the neighbourhood Overvecht to different forms of heat supply. Another project is Workgroup Energy Transition Lunetten (hereinafter referred to as “Lunetten”), initiated by residents of the neighbourhood Lunetten (Gemeente Utrecht & Jouw Huis Slimmer, n.d.). The goal is to have collective purchasing actions for isolation material and to stay on top of the plans of the municipality about the energy transition in the neighbourhood of Lunetten. In both these projects citizens can participate.

A lot of research has been done about public participation in climate change adaptation (Few, Brown, & Tompkins, 2007; Hegger, Mees, Driessen, & Runhaar, 2017). Uittenbroek, Mees, Hegger, & Driessen (2019) have researched public participation in climate adaptation planning in the Netherlands. Even the role of local governments in community initiatives in climate change adaptation has been researched (Mees, Uittenbroek, Hegger, & Driessen, 2019). The research on adaptation is relevant because mitigation and adaptation are often both present and equally important to reduce the impacts of climate change and the emission of greenhouse gasses (Biesbroek, Swart, & van der Knaap, Wim G. M., 2009). However none of these researches have pointed to public participation in mitigation projects, which have another approach and goal than adaptation projects. Research has been done on community initiatives in the context of climate change mitigation before (Hoff & Gausset, 2016), however focussing mainly on behavioural aspects of why community initiatives occur. It does not mention the effects it has on policy outcomes, like legitimacy. The general opinion is that public participation increases the legitimacy of environmental policy and environmental measures (Glucker, Driessen, Kolhoff, & Runhaar, 2013; Uittenbroek, Mees, Hegger, &

Driessen, 2019). Furthermore there is a lot of academic literature on public participation and legitimacy however this does not focus on legitimacy associated with community initiatives (Burton & Mustelin, 2013; Mees, Driessen, & Runhaar, 2014). It can therefore be concluded that there exists a research gap on public participation in mitigation projects.

The aim of this research is to make clear what the involvement of citizens contributes to the legitimacy of mitigation projects in Utrecht. For society it can be relevant to understand if and how citizens can contribute to the legitimacy of mitigation projects in the city. Whenever legitimacy is high in Utrecht for various forms of citizen participation, these types of projects can probably be successful in other Dutch cities as well. Also society will suffer when there is a lack of legitimacy. When citizens cannot identify with policies and projects this could cause misuse of collective services, indifference to rule enforcement and overriding norms (Edelenbos & Klijn, 2006). For the scientific community, understanding of the role the public in sustainability projects for mitigating purposes in cities can be useful because this specific topic in the Netherlands has not been researched thoroughly. Also the role of community initiatives and legitimacy is a rather new research topic and is therefore interesting. Understanding how legitimacy can be increased by including citizens which can fasten the speed of the implementation of mitigation projects. This can contribute to a more sustainable society.

In light of this, this thesis will answer the research question: **What effect does the degree of citizen participation have on legitimacy in energy transition projects in Utrecht?**

## Theory and concepts

The most important concepts and theories are explored in this section, and the relationship towards each other. These concepts will be explained because they lay the foundation for answering the research question.

### Public participation

The last decades have seen a shift from a more state-centric governance mode, to a society-centric governance mode, which can also be explained as a shift from government to governance (Lange, Driessen, Sauer, Bornemann, & Burger, 2013). With the rise of governance, non-state actors or non-state stakeholders are now involved in decision processes (Newig & Fritsch, 2009). This is called public participation. Public participation in governance means that stakeholders are directly represented in decision-making about policy, plans and programs. Stakeholders are persons, groups or organisations that may be affected by or may influence policy decisions (Quick & Bryson, 2016). In a democracy like the Netherlands, citizens are important stakeholders because they are directly or indirectly represented in politics (Quick & Bryson, 2016). There are numerous definitions of public participation. Burton (2009) sees public participation as the involvement of citizens in politics, this definition will be used in this research. For this research public participation is researched in two different mitigation projects which both have another initiator. The first project is an initiative from the city of Utrecht together with private partners and the second project is an initiative of local residents.

#### *Municipality initiatives and public participation*

Municipality initiatives are the traditional and most common form of project initiatives. According to Bekkers, V. J. J. M et al. (2014), public participation means that the local government is the formal initiator and participation is structured according to the rules set up by the local government. The local government also decides when and how the public can participate. Arnstein created the famous ladder of citizen participation in 1969 which indicates eight levels of participation of citizens (Figure 1). This ladder of citizen participation will be used to indicate what level of citizen participation is apparent in the mitigation projects. In projects initiated by a municipality in collaboration with private parties, public participation can happen in various ways, depending on what the initiator decides. In the first five levels of the ladder, which are manipulation, therapy, informing, consulting and placation, projects are initiated by formal authority and the type of public participation is also decided by the formal authority (Arnstein, 1969). The first two levels are manipulation (1) and therapy (2) and are actually nonparticipation rungs, in which nonparticipation is framed as participation. The objective of this is to educate or cure participants. The third and fourth rung are informing (3) and consultation (4), under these conditions citizens are heard and are informed. However there is no guarantee that the opinions and concerns of participants are actually included in the final decision. The fifth rung is placation (5) in which advice can be given by the public however the decision is still made by the powerholders.

In the sixth level of the ladder, called partnership, the project is a partnership between formal authority and citizens, in which the initiative sometimes lies with the formal authority and sometimes with the citizens. Sharing of power however is often demanded or taken by citizens and not given by the formal authority (Arnstein, 1969). The seventh level of the ladder, which is called delegation, the project can be initiated by either formal authority or citizens, but citizens have the dominant decision-making power over the project or plan (Arnstein, 1969).

#### *Community initiatives and public participation*

Community initiatives in the Netherlands tend to occur when societal problems arise with the main aim of improving liveability and solidarity (Hurenkamp, Tonkens, & Duyvendak, 2006). The effects it has on the local community are often positive because problems are signalled but also dealt with. Secondly, other citizens get motivated to start initiatives too and contribute to local society (Hurenkamp et al., 2006). On the downside, the strongest in civil society become stronger. This means that civil society reproduces the inequalities that it is based on (Hurenkamp et al., 2006). Community initiatives are what Arnstein (1969) calls citizen control (level 8) in which citizens obtain the full power in decision-making in the ladder of participation. Citizen control is described as people demanding power or control which gives them the possibility to govern a program or project by themselves. The citizens also are in charge of the policy and other managerial aspects, so it is entirely their responsibility (Arnstein, 1969). The premise of community initiatives is that the government is not the initiator, but the extent to which governmental bodies have some influence in the community initiatives differs. The government only indirectly becomes an ambassador of initiatives. Initiatives are self-initiated, self-coordinated and self-governed (Mees, Uittenbroek, Hegger, & Driessen, 2019). In the Netherlands there are a lot of mitigation projects and organisations focussed on local renewable energy which have been initiated by citizens and have almost no intervention of governmental actors (Boon & Dieperink, 2014). In the research from Boon and Dieperink (2014) about these local renewable energy organisations they found that to gain support and acceptance for these projects it is necessary to involve local people in a non-constraining way. It is also necessary to make sure the benefits are distributed equally and fairly and to be able to become a co-owner of the project. When these conditions are met, acceptance and support are higher for these kinds of projects (Boon & Dieperink, 2014).

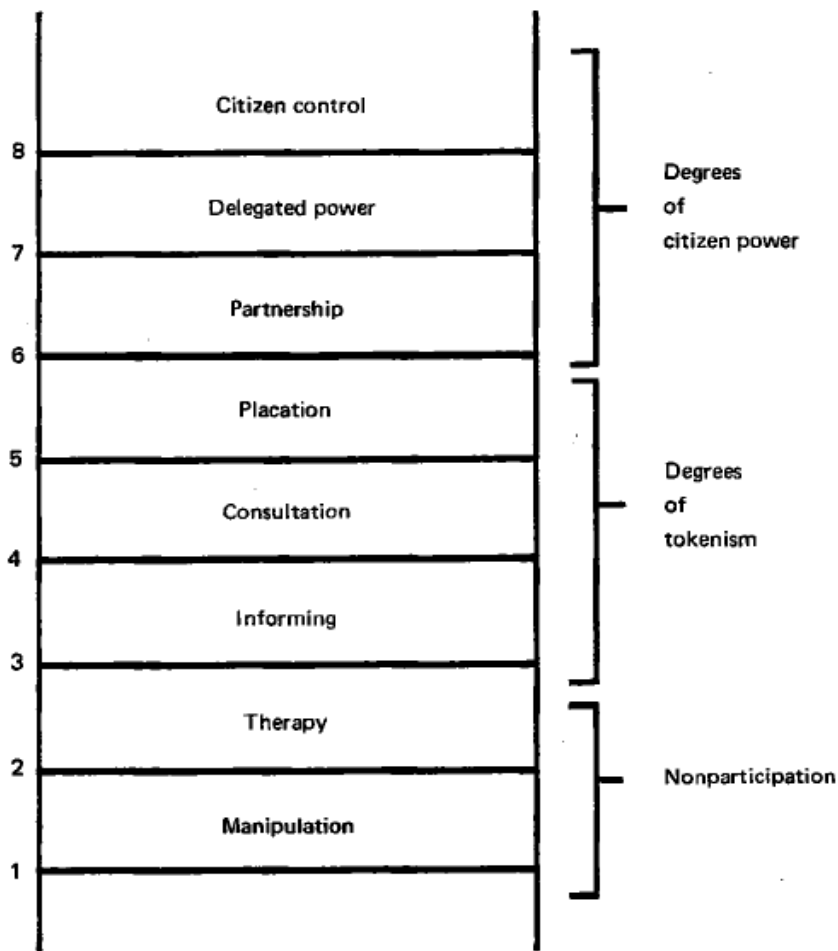


Figure 1. The eight levels on the Ladder of Citizen Participation (Arnstein, 1969).

## Legitimacy

Legitimacy is “a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions (Suchman, 1995). Often, legitimacy is seen as a concept closely related to politics because it entails the acceptance of authority and the justification of political power (Mees, Driessen, & Runhaar, 2014). Traditional legitimacy issues arise over the question of who gets what, when and how, the definition given to politics given by Laswell in 1936 (Bekkers, Victor, Dijkstra, Edwards, & Fenger, 2016). The distribution of public goods and values is always skewed and the decisions made about this should be accepted by the community for it to be legitimate (Bekkers et al., 2016). However, because of the shift from government to governance in which more actors are represented, new legitimacy issues have occurred (van Kersbergen & van Waarden, 2004). An example of this is skewed interest representation of different actors (Mees et al., 2014)



In politics, legitimacy is often seen in three forms. These are input legitimacy, throughput legitimacy and output legitimacy (Mees, Driessen, & Runhaar, 2014). Input legitimacy is gained through the equal representation of all interests at stake (Mees et al., 2014). It is important to consider the fact that representation can sometimes be skewed by existing power relations, for example by the inclusion of more dominant voices (Mees et al., 2014). Throughput legitimacy is gained through high quality of participation and high quality of deliberation (Mees et al., 2014). This means that in participation, stakeholders should be able to really influence the decision-making. Participation should not be used as tokenism; stakeholders are included but their opinions and views are often not given a lot of attention (Arnstein, 1969). Secondly, deliberation should be open between stakeholders so mutual understanding is encouraged and facilitated (Mees et al., 2014). Citizens are critically engaged in conversation and try to look at the project from different points of view to create understanding for other stakeholders (Hartz-Karp & Newman, 2006). The last form of legitimacy is output legitimacy. Output legitimacy is gained when the stakeholders accept the outcomes (Mees et al., 2014).

#### *Legitimacy of public participation in municipality initiatives*

According to Burton, political legitimacy will increase when more people are part of the decision-making (2009). Including citizen participation narrows the open legitimacy gap for public organisations (Yetano, Royo, & Acerete, 2010). Nevertheless, even though local governments want to improve legitimacy by including citizen participation, there is also some resistance from the local governments to do this (Yetano et al., 2010). By including citizens, the power of the initiator of the project automatically decreases. This trade-off is sometimes difficult for local governments to make (Yetano et al., 2010). This is why sometimes, public participation in local governing is used more as tokenism when there is a feeling that the autonomy and authority of government is threatened (Oliver, 1991). This means that often throughput legitimacy is relatively low because participation of the public is symbolic and does not really influence decision-making (Cornwall, 2008). Direct and inclusive representation of citizens is prone to lead to a higher degree of input legitimacy, however as mentioned before this can lead to a skewed representation because existing power relations in society can be reflected in this representation (Mees et al., 2014). It is often seen that ethnic minorities, young people, women and the lower educated are underrepresented in municipality projects (Michels & De Graaf, 2010). Lastly, output legitimacy will be higher if citizens feel like the authority is effective at achieving goals or is effective in solving policy issues, which relates to the acceptance of outcomes of the policy process (Mees et al., 2014).

#### *Legitimacy of public participation in community initiatives*

There is still a lack of substantive research on the relationship between legitimacy and community initiatives (Bekkers, V. J. J. M et al., 2014). Therefore it is impossible to say something about community initiatives and output legitimacy. Some research has been done however on the representation of interests in community initiatives, which concluded that often lower educated people are not included or present in community initiatives (Hurenkamp, Tonkens, & Duyvendak, 2006). Also most of the initiatives were started by active citizens who are white, older and highly educated (Hurenkamp et al. 2006). This can be seen as a low level

of input legitimacy. Hurenkamp et al. (2006) underline that some form of governmental stimulus is necessary to include lower educated, younger people by offering opportunities for this. The quality of participation in community initiatives is often high because citizens are the initiators of the project and are fully responsible for the project, they govern the project, so they have full access to the policy process and are able to completely influence it (Arnstein, 1969). Therefore it is assumed that throughput legitimacy is high in community initiatives.

## Analytical framework

The analytical framework shows the relationships between the variables levels of citizen participation and legitimacy. Legitimacy is presented through a framework taken from (Mees et al., 2014) and adapted for this specific research. The reason this specific framework has been chosen is because it clearly distinguishes between various forms of legitimacy, adding throughput legitimacy as well. In a lot of literature about legitimacy, only input and output legitimacy are mentioned. For this research it is also important to understand the quality of participation and deliberation because it will give a more nuanced and complete outcome of the research. The framework has also been adjusted to specifically only the role of citizens instead of taking a look at all stakeholders involved in the projects for reasons of a limited time frame but also because this research looks at legitimacy and public participation, in which public participation is seen as the involvement of citizens.

Initiator	Level of citizen participation
Municipality	Level 1: Manipulation Level 2: Therapy Level 3: Informing Level 4: Consultation Level 5: Placation Level 6: Partnership Level 7: Delegated power
Citizens	Level 6: Partnership Level 7: Delegated power Level 8: Citizen control



Legitimacy			
Legitimacy forms	Sources of legitimacy	Indicators	Range
Input	Interest	Extent to which all interests of	High: all citizen interests are

	representation	citizens are included and equally represented in the mitigation project	represented directly or indirectly through formal ratification with wide acceptance Medium: all interests are represented, but representation is skewed by direct representation of some interests over others Low: some interests are clearly underrepresented
Throughput	Quality of participation	Citizens extent of access to the policy process	High: high access to and influence on major stages of the policy process Medium: limited access/influence on the policy process, or limited in terms of stages of the policy process Low: no real influence on decision-making in policy process
	Quality of deliberation	Extent to which deliberation between citizens is open, and encourages and facilitates mutual understanding	High: open exchange of argumentation Medium: discussions are less open and constructive in the eyes of the citizens Low: deliberation is more symbolic than real according to citizens
Output	Stakeholders' acceptance of outcomes	Extent of citizen's' acceptance	High: all citizens accept the outcomes Medium: the outcome is accepted by most citizens Low: the majority does not accept the outcomes

Table 1. Analytical framework

# Methods

## Case selection

For this thesis, a comparative case study, or a comparative design with multiple-cases as Bryman (2016) calls it, has been executed. The reason for using a comparative case study is because the research has focused on the social phenomenon of legitimacy. A way to better understand social phenomena, is to compare it to two or more cases (Bryman, 2016). The two cases which have been selected are two cases in the city of Utrecht: Overvecht-Noord and Lunetten. These cases were selected because they both deal with the energy transition in Utrecht but have a different approach; Overvecht-Noord is initiated by the municipality in cooperation with private parties and Lunetten is initiated by residents of the neighbourhood. Since this thesis researched different levels of public participation in projects, these two cases fitted well in the research design.

### Overvecht-Noord Natural Gas Free

Overvecht-Noord is a project set up by the municipality in collaboration with housing associations Mitros, Bo-Ex and Portaal, energy company Eneco, network operator Stedin and the citizen energy cooperation Energie-U. The goal of this project is to have all the houses in Overvecht-Noord off natural gas by 2030 (Gemeente Utrecht, 2019c). This goal is a reaction to the plans of the municipality of Utrecht to become climate neutral as soon as possible. The residents of Overvecht-Noord are not formally represented as a stakeholder in this project. There are two types of residents, the homeowners and the tenants. Informally, homeowners are organised through multiple organisations like the ward council which consists of residents of Overvecht and entrepreneurs and/or representatives of organisations who are working for Overvecht, community initiatives which came into existence after the project had been released: *Klopvaart Buurt* and *Nieuwe Energie aan de Vechtzoom*, the focus group and individual residents (Gemeente Utrecht, 2019). Tenants are represented by the housing associations (Gemeente Utrecht, 2019). Since this project is a process that consists of multiple phases and is not yet completed in its entirety, the first three phases which are completed or still in progress have been researched. The first phase which can be identified is the designation of Overvecht-Noord in 2017 as the first neighbourhood in Utrecht to go off gas. The second phase that has been identified is the exploration of wishes for heat solutions and weighing these off. The third and last phase - in which the project situated now at the time of research - is calculating and drawing by independent bureaus CE Delft and APPM in which calculations of various heating options are made and presented from which the feasible options will be deducted (Gemeente Utrecht, n.d.a).

## Workgroup Energy Transition Lunetten

This community initiative is one of many initiatives that has been set up by residents of the neighbourhood in response to the plans of the municipality of Utrecht in light of the energy transition. The goals of the community initiative are two-fold. On the one hand, the strategic part of the initiative wants to stay on top of the plans about the energy transition from the municipality, getting informed when plans are made for their neighbourhood and being involved in the making of these plans. People from the initiative talk on process level with the municipality (Interviewee 6 & 7). On the other hand, the executive part of the initiative is setting up a more practical project. The initiators are trying to start a project for collectively buying and installing isolation in a couple of homes so that they can start making their neighbourhood more sustainable. This project is still in its infancy, the orientation phase has just started (Interviewee 6 & 7). The initiative was set up by residents of Lunetten which is a neighbourhood in Utrecht. They came together after a citizen-summit organised by the municipality to create another destination for the neighbourhood budgets. The community initiative itself consists of 7 residents who live in Lunetten.

## Type of data

Qualitative data was used for reasons of time and complexity of the topic. The data in this research was collected through purposive sampling whereby the projects, participants and documents were chosen strategically so the information is relevant for answering the research question (Bryman, 2016). There are two ways in which data was collected.

Firstly, with the use of search engine Google, project documents, websites and reports of participation meetings were searched. Also, through the website of the municipality of Utrecht a lot of documents were found. These documents include minutes of meetings, community consultations and council meetings. Secondly, qualitative semi-structured interviews were held with experts from different projects. To measure the indicators which are presented in the analytical framework, specific interview questions were designed which can be found under annex 2. Contact was made with different initiators like project managers of the municipality and citizens to request interviews. The research also partly relied on snowball sampling, finding more participants to interview through the participants which were already interviewed (Bryman, 2016). This means that people who are either directly involved as citizens in the projects or/and as initiators were interviewed, with a total of 11 interviews. The interviews took place from the 19th of May until the 27th of May and transcribed in the same period. The interviewees were found by searching for contact information on websites of specific projects and through my personal network in the municipality of Utrecht. Due to the Coronavirus, all interviews have been taking place online through Microsoft Teams or phone calls. For Overvecht-Noord, five people were interviewed. Three of them were citizens who are actively involved in the project, they were either part of community initiatives in Overvecht-Noord or part of the focus group about the project. The other two were someone from the municipality who is in charge of the project and someone from a housing association who could answer questions about the involvement of the

tenants. For Lunetten, six people were interviewed. Two of them were citizens who initiated the project. One was a representative from the municipality who is actively involved in the project. One is from the nature and environmental defense of Utrecht. One is from another community initiative in Houten. The last one is a representative of Energie-U. It is also important to note that the interviewees were asked about their perception of legitimacy, they are not representative for the opinion of all citizens living in the neighbourhoods.

## Data analysis

The qualitative data obtained has been analysed by coding through NVivo qualitative data analysis software. First coding was done with open coding, then coding was done with a coding scheme. This was based on the analytical framework which can be seen under annex 1. The obtained analysis was coded twice to make sure that coding was done correctly. The obtained documentation and reports were coded through NVivo. The interviews were transcribed manually and coded through NVivo as well.

## Ethical considerations

Ethical considerations were taken very seriously. No harm was caused to participants. I arranged informed consent through a letter with information and an attachment of informed consent for all interviewees to sign. In the information letter, I included an explanation of what the study entails, and possible advantages and disadvantages, as well as the voluntary nature of the research. I also addressed that their information would be treated with confidentiality since it might contain privacy-sensitive information. The data I have retrieved has been anonymised and the remaining non anonymised information has been stored in secured environments. The data will be stored on my password protected computer and on my students account of Google Drive which is protected with a password as well. Anti-virus software has already been installed on my computer. The data will only be accessed by me and will not be used for any other purposes than this research. The data will be stored and encrypted for 10 years.

# Results

## Overvecht Noord Natural Gas Free

### Public participation

According to the public participation levels of Arnstein, the citizens were involved in various ways. Firstly, the municipality indicates that citizens are always informed (level 3) about the projects they initiate (Interviewee 2). Secondly they are consulted (level 4) as well, when deciding about heating options for houses (Gemeente Utrecht, 2019). Some placation (level 5) took place in which citizens could advise the municipality about the project however the decisions are still made by the municipality (Interviewee 1, 3 & 5).

### Input legitimacy

The first phase of the project has been named by the municipality as the collection of wishes concerning heat solutions (Gemeente Utrecht, n.d.). Residents, however, point out that the first phase of this project was the decision to choose Overvecht-Noord as the first neighbourhood in Utrecht to go off natural gas. This decision was not made with them but was decided by the municipality in collaboration with housing associations Mitros, Bo-Ex and Portaal, energy company Eneco, network operator Stedin and the citizen energy cooperation Energie-U (Interviewee 1, 3 & 5). So none of the interests of residents were taken into account in this phase, also not representatives of residents like the ward council (Wegdam, 2018).

In the second phase of the project, residents of Overvecht-Noord were invited to residents information meetings and neighbourhood talks which were organised by the municipality to inform the residents about the project and collect their wishes about an alternative for natural gas (Gemeente Utrecht, 2019a). In this meeting residents who showed up got to express their concerns which were mainly about the costs of this project. However, only a really small part of the residents showed up at these meetings, which is not a representation of all the interests of residents in Overvecht. The concerns that were mentioned were taken into account by the municipality. A focus group was set up for residents in which they could express their interests, once again this is only a small group of people, decreasing over time (Interviewee 3 & 5). As a response to the project, two community initiatives were set up to represent the interests of smaller neighbourhoods in Overvecht-Noord, the Klopvaart and along the Vechtzoom (Interviewee 1 & 3). The interests of these community initiatives are taken into consideration by the municipality (Interviewee 1 & 3). Also these community initiatives equally represent their neighbourhood since they have personally talked to everyone in their neighbourhood and drawn up a manifesto with their interests (Interviewee 1 & 3). For the Klopvaart Buurt, 60 percent of the residents are supportive of the community initiative (Interviewee 3). The housing corporations are representatives for the residents who rent their house in Overvecht Noord, almost no residents from rented houses are present at information meetings and in the focus group (Interviewee 1 & 4). The housing corporations do need to get a

70 percent support base for making changes in the houses. This support base is achieved in most cases (Interviewee 4). Therefore interests of renters are represented equally through the housing corporations.

In the third phase a selection of heating solutions is established and tested by independent bureaus CE Delft and APPM (Interviewee 1 & 3). Interests of members of the community initiatives are taken into account, as one member of the community initiative said that two options that they prefer had not been tested and the municipality is willing to include these options in the calculations (Interviewee 3). Input legitimacy is considered to be medium because interest of various groups of residents are taken into account but there is still a big group of residents which has not been reached (Interviewee 2).

### Throughput legitimacy

In the first phase no residents or representatives of residents of Overvecht-Noord have been involved (Interviewee 1, 3, 5) (Wegdam, 2018). So the appointment of Overvecht-Noord as a neighbourhood to go off natural gas was without any form of participation or deliberation of residents. Residents had no access to this phase of the policy process, so influence on this part of the policy process of residents is non-existent.

The municipality states that the forms of participation they use are informing, advising and consulting with the residents. Also, they find it important to include residents as much as possible through the entire process. In the second phase all residents of Overvecht-Noord were invited to join the information meeting and neighbourhood talks (Gemeente Utrecht, n.d.). The first information meeting in 2017 was described as being primarily informative, in which the aldermen was sending out information about the project (Interviewee 1, 3 & 5). In the neighbourhood talks which were organised to understand what residents found important in choosing for alternative heat solutions, residents were informed and also consulted about what they found important (Gemeente Utrecht et al., 2019). In these open sessions, there was room for questions and critique from the residents (Gemeente Utrecht, 2019b) (Interviewee 1). In the meetings from the municipality with the ward council, there are a lot of discussions about the project (Wijkraad Overvecht, 2017; Wijkraad Overvecht, 2019). The ward council is primarily informed at this stage. In meetings with the focus group, it is mentioned that sometimes conversations are steered by the municipality representatives (Interviewee 5). The focus group is however primarily used for consulting. In meetings with the community initiatives, members of the initiative feel that because of their high degree of organisation they can participate on a high level (Interviewee 3). They cannot co-decide but they are consulted heavily.

When the phase of calculating and drawing has been completed for every part of Overvecht-Noord, the municipality will eventually decide on which alternative will be installed in what part of the neighbourhood (Interviewee 2). Residents will only be consulted about this but will have no say in the final decision. Throughput legitimacy is considered to be medium because although deliberation is high, there is limited access to and influence on the policy process, as well as them not being included in all stages.



## Output legitimacy

Since the project is not finished yet and will probably take quite some years, there are no clear project outcomes. It can be noted that overall the residents of Overvecht Noord are not satisfied with the first phase of the project in which residents were informed lately and sometimes through the media about the fact that their neighbourhood has to become natural gas free (Gemeente Utrecht, 2018). This has caused a lot of unrest and unhappiness for the residents (Gemeente Utrecht, 2018; Wegdam, 2018), Interviewee 1, 2, 5). Also, the ward council feels that they have not been asked for advice or informed about this decision timely. They are appointed as an advisory organ which is now not used for this purpose (Wegdam, 2018). Another often heard complaint is that the process is taking a very long time (Interviewee 1, 2, 3, 5). The project was released in 2017 and in two and a half years there are still no clear solutions for affordable alternatives for natural gas (Interviewee 1, 2, 3, 5). Residents are not satisfied with the slow pace of the process (Interviewee 1, 2, 3, 5). The community initiatives and members of the focus group are quite satisfied with the way they are involved in the calculating and drawing process, in which they get involved. However there is a fear of not getting to choose the options themselves (Interviewee 1, 3 & 5). Therefore output legitimacy is considered to be low because the majority of citizens do not accept the outcomes.

## Workgroup Energy Transition Lunetten

### Public participation

According to the public participation levels of Arnstein, the citizens were involved in various ways. Since the project was started by residents of the neighbourhood and they have the full power in governing the project the level of participation is citizen control (level 8) (Interviewee 6 & 7). However other levels of participation can also be distinguished. The citizens in the initiative made clear that they want to cooperate with the municipality, so a representative of the municipality is present in their meetings and helps out which can be seen as partnership (level 6) (Interviewee 7, 10, 11).

### Input legitimacy

The interests of the residents of Lunetten are not equally represented, because only a small group of enthusiastic people, with an interest in sustainability and knowledge of the neighbourhood, are active in the community initiative (Interviewee 6, 7, 9, 11). These people are not representative for the whole of Lunetten as they mention themselves as well: "It is a dangerous thing because a neighbourhood is as multiform as a society itself, so you need a representative from each of the different positions in the neighbourhood and you do not have that in a group like this." (Interviewee 7). So in the consultations with the control table, only the interests of the people from the community initiative are represented. Next to this, the community initiative has organised information meetings with the residents of Lunetten (De Musketon, 2019). The initiative tries to include all the interests of people living in Lunetten by

organising these meetings and trying to include people for collective sustainable solutions like isolation. However in the last meetings which were organised only 100 people showed up, which is a very small percentage of the neighbourhood (Interviewee 6, 7 & 11). The interests have been collected however this is again not a representation of the entire neighbourhood (Interviewee 6, 7 & 11). Therefore input legitimacy is rated low because some interests are clearly underrepresented.

### Throughput legitimacy

Residents of Lunetten can participate through joining the community initiative and also join in the neighbourhood meetings which are organised by the community initiative, and participate in an upcoming collective isolation project. The community initiative itself chose the subject on which to focus on to be the energy transition: "Together we made the decision to start working on the energy transition" (Interviewee 7). Members of the initiative contacted the aldermen to participate in the strategic plans for the energy transition in Lunetten. Since residents are the initiators of the project, they are heavily involved in the whole process of their project. It is their responsibility to let it succeed, both the outcomes but also on the managerial aspects. Residents participate in two ways, on the strategic and executive level (Interviewee 6, 7, 11). On the strategic level the community initiative sometimes participates in the control table which includes the municipality, energy companies, energy transporters, housing associations and owners of big building complexes. In the control table, it was decided together that Lunetten would become involved more directly at the point that the municipality would have a more concrete plan for the energy transition in the neighbourhood (Interviewee 6). The community initiative will play a bigger role once the plans for the energy transition for Lunetten will become more concrete (Interviewee 6 & 9).

In the meetings of the members of the initiative, a representative of the municipality is also actively involved (Interviewee 6 & 11). The initiative wants to work together closely with the municipality in steering which way to go in the projects they want to set up, so that they stay in line with ideas about the energy transition. This collaboration is said to be a co-creation between the municipality and the initiative (Interviewee 6 & 11). An example of this is that the municipality is writing up a subsidy that the initiative can request for renting expert knowledge on isolating houses (Interviewee 6 & 11). The residents are the initiators of this partnership with a representative of the municipality so the influence they have on this is very big.

On the executive level, the community initiative has participated as the initiator and facilitator of neighbourhood meetings and a project for collective isolation. In the neighbourhood meeting, all people in the neighbourhood were invited by the initiative and could participate in thinking about what is important in the energy transition in Lunetten (Interviewee 6 & 7). Before the first meeting people were invited to fill out questionnaires in order to understand what people think about Lunetten having to go off natural gas and what role residents should play in this process. During this meeting discussions were held and worries were shared (Werkgroep Energietransitie Lunetten, 2019) (Interviewee 6, 7, 11). So deliberation was apparent and encouraged. This meeting was also used to collect information about residents who would want to participate in collectively buying and installing isolation. The people who were interested in follow-up signed up for this (Interviewee 6 & 7). Throughput legitimacy is rated high because

citizens have high access and influence on the different stages of the policy process and deliberation is high.

### Output legitimacy

The initiative has not yet achieved any concrete outcomes, however since one of the initiators describes this initiative to be more of a process than a project (Interviewee 7), several steps in the process have already been taken and there is acceptance of these outcomes (Interviewee 7, 6 & 11). In working together with the municipality the citizens of the initiative are satisfied with the fact that the municipality is working on a subsidy that they can apply for (Interviewee 6). With this subsidy, expert knowledge can be bought for organizing the isolation project which is being set up. Secondly, the members of the initiative are satisfied with the way they can participate in the control table on the plans for the energy transition in Lunetten (Interviewee 6, 7 & 9). However not all residents seemed pleased with what the initiators of the project are trying to achieve: "And of course with social media these days, the crabby persons in this society make their voices heard. So there were quite a lot of negative reactions on social media, that our little group had decided that Lunetten has to go off natural gas. Which is not true of course." (Interviewee 6). This shows that not all the residents of Lunetten accept the outcomes so output legitimacy is medium.

## Discussion

The project Overvecht-Noord which has been initiated by the municipality in collaboration with private parties reaches levels of informing, consulting and placation on the ladder of citizen participation. This is in line with the expectations about levels of citizen participation relating to projects initiated by the municipality according to Arnstein (1969). The project scores medium on input legitimacy, medium on throughput legitimacy and low on output legitimacy.

The literature shows that input legitimacy for citizens is often low because a lot of minority groups, ethnicities, women and younger people are not included in the project (Michels & De Graaf, 2010). In Overvecht-Noord it can be seen that the municipality tries very hard to include all different people from the neighbourhood but is not completely successful (Interviewee 2). Nevertheless, a lot of people with different backgrounds are involved, but not all of them.

The literature also indicated that throughput legitimacy is often low because municipalities use the participation of their citizens more as tokenism instead of giving them really the chance to influence the process. In Overvecht-Noord citizens did really get a voice and can exert influence on the process, however without having the power to actually make decisions. Therefore throughput legitimacy is medium.

Lastly, output legitimacy is believed to be higher when authority is effective in achieving outcomes, which causes the outcomes to be accepted. In Overvecht-Noord the acceptance of outcomes is low because overall citizens are not satisfied with the outcomes. It is striking to see that especially output legitimacy scores low in this project. Residents are often angry and dissatisfied about the fact that this project was implemented top-down without their consent or interests represented. This has caused a lot of unrest and rather negative reactions to the project. However, there is a difference in perception about these outcomes. Citizens committed to the community initiatives are overall more satisfied with the outcomes than other residents because they are more thoroughly involved. As the initiator of the community initiative Klopvaartbuurt said: "The municipality is sensitive to the high organisational degree of their initiative" (Interviewee 3). This means that lower levels of participation in the project Overvecht-Noord, which can be seen in this project which was initiated by the municipality, leads to medium input legitimacy, medium throughput legitimacy and low output legitimacy.

The project Lunetten which was initiated by citizens reaches levels of partnership and citizen control on the ladder of citizen participation. This is in line with the expectations about the levels of citizen participation in a project initiated by citizens according to Arnstein (1969). Current literature points out that the problem of community initiatives is often that these initiatives are carried by white older men, and that other ethnicities and educational levels are not represented (Hurenkamp et al., 2006). This exact problem was found in the project Lunetten, although the initiators were fully aware of this and recognized this problem. Meaning input legitimacy is low. Throughput legitimacy was expected to be high because citizens initiate the project and have full responsibility for the process, therefore having a major influence on the whole project (Arnstein, 1969). This could be seen in the project Lunetten as well, which means that throughput legitimacy is high. Output legitimacy was also expected to be high because it is

recognized that high throughput legitimacy often goes hand in hand with high output legitimacy. Nevertheless, not all outcomes were accepted by all citizens. This can probably be explained by the fact that the initiative had a division, working on a structural level with the municipality but also more on a concrete level, deciding for themselves. The complaints mainly arose on the part of the structural plans having to go off natural gas. An explanation could be that the initiative was seen by some as an extension of the municipality. This means that higher levels of participation in the project Lunetten, which was initiated by citizens, leads to low input legitimacy, high throughput legitimacy and medium output legitimacy.

## Limitations

There are some limitations to this research. The biggest limitation is that the people interviewed were citizens who are already actively involved and experts. This provided an in depth description of the situation. However, the people who were interviewed are not representative of the opinion of all citizens. To get to know the opinion of all citizens a quantitative research should be done in the neighbourhoods in which the projects are taken place. However this qualitative research has already given direction to the question about legitimacy and public participation.

Secondly, the analytical framework used to measure legitimacy was set up by Mees et al. (2014) and was used to look at all stakeholders involved in a project. This research has only focused on the way citizens were involved in the projects and did not look at the role of other stakeholders. This angle has been chosen because this research defined public participation to be the participation of citizens (Burton, 2009). Therefore only the role of citizens was examined. Nevertheless, citizens are an important stakeholder in these projects because mitigating climate change needs the inclusion and acceptance of all citizens (Quick & Bryson, 2016).

Another minor limitation of this research is that information about the case of Lunetten was somewhat limited due to the fact that it was a very young initiative and the initiators were still figuring out how to proceed. Therefore documentation was virtually non-existent and some of the interview questions were hard to answer. Nevertheless, the research on this case did deliver good results that could be used to answer the research question.

## Implications

The results of this research contribute to the theoretical insights on the effects of public participation on legitimacy in mitigation projects. This research gives insights about the different levels of participation and in what type of projects these levels can be found, as well as the finding that levels of participation are indeed higher in projects which are initiated by citizens. This underlines the ladder of citizen participation of Arnstein (1969).

Also a contribution has been made to the understanding of legitimacy of public participation in mitigation projects. An important insight is that the early involvement and more influence of citizens could lead to higher legitimacy in municipality projects. For future research, a quantitative analysis should be done on citizens living in the neighbourhoods.

This research has also contributed to our insights about the legitimacy of community initiatives. Since the literature was very scarce, little information was available on this topic. By researching one community initiative, a first step has been made in the understanding of legitimacy of community initiatives. This is important, since there exist many community initiatives which want to mitigate climate change, now there is a first insight on the legitimacy of these community initiatives. This is very important since mitigation projects are necessary to combat climate change. Future research could focus on researching a lot more community initiatives on legitimacy in order to build a theory on legitimacy in community initiatives.

The municipality Utrecht can encourage the development of community initiatives by setting frameworks in which they can operate (Interviewee 10). The research on this on community initiative suggests that community initiatives lead to higher levels of citizen participation which then again leads to the increase of throughput and output legitimacy. In addition projects initiated by the municipality Utrecht are still necessary and are considered to be relatively legitimate as well. However higher levels of participation are recommended in these projects thereby giving them more power in co-deciding in the policy process. It is important to consider the fact that not all interests are represented in both types of initiatives. In this society where we value the inclusion of everyone, it is necessary to be inclusive. Overall, for both types of projects, input legitimacy can be improved by including citizens, with different backgrounds, ages, ethnicities and educational attainment. This will probably then increase the acceptance of outcomes as well.

## Conclusion

In this thesis the following question has been answered: What is the effect of the degree of public participation on legitimacy for citizens on climate change mitigation projects in Utrecht? To answer this question two different projects in Utrecht were chosen to study legitimacy. One is Overvecht-Noord and the other is Lunetten. Overvecht-Noord is initiated by the municipality of Utrecht in cooperation with private parties in which public participation occurs at the levels of informing, consulting and placation. Lunetten is initiated by residents of the neighbourhood Lunetten in which public participation also occurs at the level of partnership and citizen control. In Overvecht-Noord, lower levels of participation are distinguished which leads to medium input legitimacy, medium throughput legitimacy and low output legitimacy. In Lunetten higher levels of participation are distinguished which leads to low input legitimacy, high throughput legitimacy and medium output legitimacy. It can be concluded that in the case of these two mitigation projects in Utrecht with different initiators, the level of participation increased when the project is initiated by citizens in comparison to the municipality with other private parties. It is however too easy to say that the overall legitimacy increases too. Input legitimacy in both cases is still very hard to achieve because it remains difficult in all types of projects to include all citizens. Throughput legitimacy however is a lot higher for community initiatives. Output legitimacy also seems to increase when citizens can participate on a higher level. All in all, a higher level of participation in the two cases researched is strongly related to higher throughput and output legitimacy in energy transition projects in Utrecht.

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# Annexes

## Annex 1 – Coding scheme

Parent node	Child node
Input legitimacy	Equal interest representation
Throughput legitimacy	Quality of participation
	Quality of deliberation
Output legitimacy	Outcomes
	Acceptance of outcomes

## Annex 2 – Interview questions

1. Kunt u kort toelichten wie u bent en wat uw rol is bij het project?
2. Wat is uw rol is binnen het project?
3. Heeft u het idee dat de belangen van de burgers in dit project meegenomen worden?
4. Weegt elke belang evenveel mee, of zijn er belanghebbenden die meer invloed hebben?
5. Op welke manier hebben burgers toegang tot het besluitvormingsproces?
6. Hebben de burgers, op dezelfde of een andere manier toegang tot het besluitvormingsproces?
7. Op welke manier kunnen de burgers hun stem laten horen?
8. Op welke manier is er ruimte voor discussie en kritiek tijdens deze bijeenkomsten?
9. Zijn er al uitkomsten van dit proces?
10. In welke mate zijn de burgers tevreden met de uitkomsten van dit project?

### Project questions:

1. Waarom en wanneer is dit project opgezet?
2. Wat is het doel van het project?
3. Wie zijn de belanghebbenden in het project?

