

Local climate change mitigation policy

Frame analysis of stakeholder views on local climate change mitigation policy in the small Dutch municipalities Lingewaard and Renkum

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Summary

In this research on climate change mitigation policy the following research question was posed: *'What problems and opportunities occur in climate mitigation policy in Lingewaard and Renkum due to possible differences in views held by local stakeholders on the roles to be played in local policies?'*. Hajer (2011) identifies an 'Energetic Society' where citizens are quick to react and have a great learning ability and creativity. This 'Energetic Society' can be used by municipal governments to increase the effectiveness of climate change mitigation policy, especially as municipalities are facing financial hard times. This would mean a change from top-down government to non-hierarchical governance. This research intended to check how the stakeholders in Lingewaard and Renkum perceived this change in control.

The local climate change mitigation policy in Lingewaard was researched by doing a multiple case study, using qualitative cross-sectional research methods. Data was collected through interviewing relevant stakeholders from different stakeholder groups in the municipalities of Lingewaard and Renkum. Data was analysed through categorisation.

The following results were found:

- When a municipal government is promoting the reduction of greenhouse gas emissions, it is important to set a good example by reducing the organisational greenhouse gas emissions. In Lingewaard and Renkum, an information dissimilarity was apparent between the municipality and other stakeholders. The municipal government is actively trying to set a good example, but the other stakeholders are not aware of the efforts made.
- The second role a municipality could play is influencing other stakeholders to reduce their greenhouse gas emissions. Stakeholders agree that the government should use their network connections promote sustainability to all stakeholders. The municipal organisation can be of added value through creating business opportunities by connecting stakeholders.
- The municipal governments of Lingewaard and Renkum have committed to facilitating local initiatives the 'Energetic Society' might start. In experience by stakeholders the facilitation by local governments isn't always valuable to the initiatives. Actors realise that the local government has limited expertise and resources, but expect more effort and input than a civil servant being present at meetings.

An opportunity lies in improving the communication to stakeholders. The municipal organisation could make better use of their position in the centre of the network of businesses and the civil society. Another opportunity in communication can be found in the municipal government actively sharing their actions to reduce greenhouse gas emissions in their organisation. This might make other actors more understanding and willing to become more sustainable. Facilitation is a role the municipal organisation actively pursues, but not to the standards of the initiatives. More resources and expertise are needed to make a contribution to the initiatives.

Foreword

My bachelor Public Administration will be concluded with this bachelor thesis. In order to get working experience and to orientate on what job types interests me, I was specifically looking for a bachelor assignment combined with an internship. This is exactly what Tauw offered, and the subject climate change mitigation interested me immediate. So much even that I decided to do my master in Sustainable Business and Innovation. I started my internship in August 2013 and had half my time at Tauw available to do research and the other half I supported Tauw in writing climate policy documents. I learned a lot about working and where in what direction my further ambitions for doing a master are.

I'd like to thank Tauw for giving me the opportunity to do an internship and for the effort to make me feel a part of the department. I really enjoyed the talks, lunch walks, afternoon drinks and the departmental outing. Special thanks goes to my supervisor at Tauw, Pascal Zoetbrood, for taking the time to guide me and the freedom in working on policy documents.

This research would not have been possible without the people who allowed me to interview them and invested the time. I was surprised by the openness of your opinions, your hospitality and the enthusiasm of your responses. It made doing the interviews a lot more fun and gave me useful results to work on. Thank you all for that. I have anonymised the report and wrote the thesis in masculine form for the sake of convenience.

Dad and Marijke, thanks for your always well intended, but not always as well received, advice. Thanks to my mom and sister, for motivating me to the finish line. Thanks Leonie and Roos, for being my study buddies in the university library in those final weeks. Thanks to everyone else who had to endure my enthusiastic stories and everlasting rambles over my struggles and lagging behind schedule. Thanks to my rowing crew for the well needed distraction in the evenings and weekends.

Finally my thanks goes out to Dr. Thomas Hoppe and Dr. Peter Stegmaier for sharing their expertise, critics and time. You have been very helpful and have truly helped me through doing my first research.

Casper van Hoorn

1 Introduction

1.1 The Energetic Society

Participation, interaction with and initiative from stakeholders is becoming increasingly important in local climate change mitigation policy. Stakeholders are expected to help in achieving policy goals. But are these stakeholders prepared to help? This research proposes to look into the way different stakeholders in two small Dutch municipalities look at the role of the government in the policy process. The Netherlands Environmental Assessment Agency (PBL) recently published its view on the way sustainability policy should be organised, in a report titled 'the Energetic Society'¹ (Hajer, 2011). It argues for adaptive and flexible policy. Policy is moving from top-down hierarchical 'government' to 'governance', which refers to a non-hierarchical form of governing. In governance public and private stakeholders are participating in the formulation and implementation of policy (Rhodes, 1997). The network around a government is increasingly important and the actors in this network are becoming more equal, instead of a governmental body imposing rules on actors (Hoppe & Coenen, 2011a). It has become more important to manage actors in a network to reach public goals (Kickert, 1997). In this light public participation is deemed necessary in policy decisions in order to make these decisions sustainable (Diduck, Pratap, Sinclair, & Deane, 2013).

In the Netherlands, local governments were stimulated to take action on local climate mitigation policy through intergovernmental policy. Most of the Dutch governments have included climate change mitigation policy into their policy agreement (Hoppe & Sanders, 2012). It turns out however that local stakeholders were rarely involved in the policy process and that policy goals were too ambitious for these municipalities (Hoppe, Van Bueren, & Sanders, 2013). Involving stakeholders into the policy process is crucial, as for the most part, they have to reduce energy use and change to use of renewable energy sources. Climate change mitigation needs to happen at an individual level. Every individual is involved and every individual's life must change in order to reduce greenhouse gas emissions (Kent, 2009).

Hajer theorises in the Energetic Society that citizens and businesses themselves take more initiatives (Hajer, 2011). Therefore governments are given the opportunity to change their role into a more facilitating role of supporting local initiatives and innovation (Oude Vrielink & Verhoeven, 2011). They can create an institutional framework where knowledge and know-how can be shared. By doing this they can fulfil the conditions necessary for local initiatives to develop and grow sustainably. When citizens and businesses have the initiative and the government stimulates, motivates and facilitates initiatives, the governing relation will have changed from top-down to bottom-up (Hajer, 2011). Climate change system innovations, for example wind energy,

¹ The Energetic Society is a term introduced by Maarten Hajer (2011). He describes the Energetic Society as being a society where more social energy is available. This is closely related to the quest for a sustainable society. Sustainability can't be reached by government action alone and therefore mobilisation of public creativity is necessary.

have a major impact on local landscape and therefore lean on the acceptance by the local community. When these innovations are introduced bottom-up, by local initiatives, they have a better chance to be accepted by the local community (Hoppe et al., 2013).

In order for local initiatives to grow and take place, individuals and private sector actors need to be motivated to do so. Actors can be motivated through certain 'frames'. A frame works on a latent level and structures perception into a representation of reality (König, 2006). When communicating, a message is put into a certain frame of thinking by a recipient (De Bruijn, Van Bueren, & Kreiken, 2012). In the climate debate four different frames can be identified, according to De Bruijn et al. (2012). A frame is for example "We are losing control", which entails that if we don't change, the environmental system will collapse with catastrophic consequences. The frames de Bruijn et al. describe all lead to a discussion on technical evidence for or against climate change mitigation. According to de Bruijn et al, this discussion should be avoided by employing a positive approach or a binding message towards reducing climate change mitigation. This might be offered by a new frame, which calls for public participation and for an autonomous community that is not dependent on an outside energy supply (De Bruijn et al., 2012). This fits well into the 'Energetic Society' as Hajer (2011) sees it.

Municipal organisations seem to be moving to a reactive governance role, but it is not known how the relevant actors in the municipalities perceive this. They might have a completely different view on what role the governmental should play. This research assumes that a policy field, where visions on the governmental role in the policy process are well aligned between stakeholders, will conduct more effective policy than a policy process where it is not. Therefore it is interesting to research how these visions could be better aligned.

Recent research has also pointed out the need for research into mobilisation of different actors on environmental problems. According to Bulkeley and Moser it requires finding "*common languages, and common visions of what is to be achieved*" (Bulkeley & Moser, 2007, p. 9). Oude Vrielink and Verhoeven (2011) call for more research on the new governing role in local initiatives. Are local stakeholders prepared to take their role and how do they see the role of the government? Successfully motivating actors to respond to climate change depends on individuals' choice and freewill (Kent, 2009). Local climate change mitigation policy is not merely about the local government motivating stakeholders through a strong frame, the actors themselves have to agree to this frame from their individual choice and freewill. For the two cases selected, it is analysed in this study whether or not the actors use the same view vis-a-vis the roles of different stakeholders in climate change mitigation policy.

1.2 KliKER project and academic relevance

This study was conducted in relation to the Interreg KliKER project². This is a collaboration programme between six Dutch and five German municipalities³. These municipalities are working together to share experiences and best practices. The programme was started in order to create a strong knowledge network on local climate change mitigation policy in the region. The consultancy company Tauw B.V. is the adviser for the Dutch municipalities in the program. Tauw helps the municipalities in writing policy documents and creating support in the municipal organisation. This research is commissioned by Tauw. The knowledge accumulated will be used for advising the municipalities.

The academic relevance lies with the analysis of the policy process for interactive policy making. *“Interactive policymaking practices should not simply be analysed with goals of effective implementation in mind. They should also be analysed and indeed appreciated as sites for the articulation of conflict and difference, as a place of social and cultural contestation”* (Hajer, 2003, p. 99). This study presents insights into this social and cultural contestation. It is only a small insight however. The results only apply to the two cases researched and cannot be generalised towards other municipalities as the research design concerns two case studies. The scientific relevance mainly lies in giving an insight in a relatively new field on the basis of which additional research can be done.

1.3 Research question

Dutch municipalities are working in a new context. Budgets are shrinking while at the same time Hajer (2011) identifies an Energetic Society. The Energetic Society is identified by the Dutch PBL as a society of citizens who are quick to react and have a great learning ability and creativity. Governments, and thus also municipalities, should make more use of this energetic society. Changing to a more participatory form of government is a possible reaction to the identification of the energetic society as well as to shrinking budgets. Climate change mitigation policy is suitable for participatory forms of government, as in order to substantially reduce greenhouse gas emissions participation of all local stakeholders is necessary. Changing to more participatory forms of government is therefore a logical step for a municipality. Whether or not municipal government is changing to a more participatory form of governance and what other actors opinions on this change are will be checked by giving a description of stakeholder views on the governmental role in the policy field. This study's main research question is:

What problems and opportunities occur in climate mitigation policy in Lingewaard and Renkum due to possible differences in views held by local stakeholders on the roles to be played in local policies?

² The KliKER (Klimaschutz in Kommunen der Euregio Rhein-Waal) project is financed by the EU programme INTERREG IV and supervised by the Euregio Rhine-Waal. The aim is to collaborate and share experiences on the subject of climate management and CO₂-emission reduction (Euregio Rhine-Waal, 2012).

³ Dutch municipalities: Renkum, Lingewaard, Rheden, Wijchen, Gennep and Overbetuwe. German municipalities: Rheinberg, Alpen, Duisburg, Kleve en Neukirchen-Vluyn.

To answer this question the following sub questions need to be answered:

What are the views on local climate mitigation policy of the municipal governments and societal stakeholders in Lingewaard and Renkum?

The municipal view is partly analysed through existing policy documents. From these documents it is identified whether an authoritarian or interactive/polycentric approach to policymaking is used (Pröpper & Steenbeek, 1999) (Bulkeley & Betsill, 2005). Using secondary data the different stakeholders in the process will be identified. A 'view on local climate mitigation policy' includes the factors like identification of focus areas, views on the role of the municipality in climate mitigation policy and views on the own role in climate mitigation policy.

What are the similarities and differences between these views?

When the views for each actor are identified, the next step is comparing the different views. By looking at each of the actors carefully the similarities and different between their views will be pointed out.

What are possible incongruences between the different views held by stakeholders, and which could pose problems or bottlenecks in the collaboration process for formulating climate mitigation policy?

From the similarities and differences that are found, it can be assessed where possible problems can occur. When these problems are identified, possibly opportunities can be found to solve these problems for example through strengthening collaboration between local stakeholders and the municipalities.

2 Theoretical Framework

2.1 Climate change mitigation policy

Fighting against climate change is an important topic on an international policy level through for example the Kyoto protocol. Climate change mitigation policy refers to reducing greenhouse gas emissions (Bulkeley, 2013). Mitigation policy is an important part of climate change policy, which also includes climate change adaptation policy. Reducing greenhouse gas emissions can be done in various ways, but the Trias Energetica theory provides a clear three step process. First, everything that emits CO₂ directly or indirectly, like car fuel, energy use by industrial equipment, energy use in the built environment and energy use in street lighting, should be used more efficiently or be improved to reduce emissions as much as possible. The second step is using sustainable or renewable energy, like solar power, for the remaining energy needs. The final step is using fossil energy sources as efficiently as possible, when supply of sustainable energy is not sufficient (Lysen, 1996).

2.2 Local climate change policy

The Dutch government started with stimulating municipalities to make policy on climate change through the slogan “think global, act local” in the 1990s (Hoppe & Sanders, 2012). Local governments are closer to the society and are therefore an important link to make the Netherlands more sustainable. Local governments were stimulated financially to implement local climate policy through different arrangements, for example by using the BANS en SLOK policy support schemes (Hoppe & Sanders, 2012). These arrangements motivated municipalities through partly financing climate mitigation policy.

The goals municipalities set are often in terms of the amount of CO₂ emissions to be reduced, the amount of energy consumption that should be reduced or a percentage of the energy demand that should be generated sustainably. In order to reach these goals municipalities have limited instruments. The municipal organisation is directly responsible for greenhouse gas emissions and the municipality can try to reduce these emissions. The vast majority of the greenhouse gas emissions in a municipality fall outside of the direct control of the municipal organisation however. The organisation can only influence others to reduce energy consumption or to generate cleaner forms of energy. In climate change mitigation policy municipalities can take on different roles. They can act as initiator, as catalyst or as facilitator (Hoppe, 2013). Even though only a marginal reduction can be achieved inside a municipality’s organisation, reducing governmental emissions is important to set a good example. Taking initiative in the municipal organisation makes the call for sustainability more legitimate.

The roles of initiator and catalyst can be fulfilled through influencing local actor-networks. This influencing goes through bargaining, exchanging resources and conferring with local stakeholders in order to reach policy goals (Hoppe & Coenen, 2011b). In Dutch practice local governments can motivate actors by using economic and ‘soft’ policy instruments (Hoppe, 2013). An example of

such a soft policy instrument is a municipality that informs inhabitants on sustainability and energy consumption reduction through a range of different media and network connections.

Local governments can also facilitate actors who have their own goals on climate change mitigation. Governmental bodies can facilitate through consultation, information exchange discussions and providing subsidies (Hoppe & Coenen, 2011b). Facilitating is beneficial for both parties as municipal organisations can reach their own goals through facilitating local initiatives and they can provide added value for these local initiatives.

2.3 Energetic society and interactive policy

Climate change mitigation policy is a field where it is deemed important to include a wider array of stakeholders in the decision making process. Stakeholders and politicians are defining non-participatory forms of policymaking as being illegitimate, ineffective and undemocratic (Bulkeley & Mol, 2003) (Vincent & Shriver, 2009). In order to reduce greenhouse gas emissions in a municipality, every local stakeholder has to reduce emissions. Therefore, including all the different stakeholders in the decision making process, will bring more support for the final decision. This interactive policy approach can be taken a step further, by designing policy where the governmental role is one of a facilitator instead of an organiser. In this role, the local government operates by facilitating and promoting local initiatives. Local initiatives refer to the social movement where civilians act on subjects they value by organising themselves and act on their own, instead of waiting for governmental action (Oude Vrielink & Verhoeven, 2011). The difference between facilitation of local initiatives and interactive policy is that with local initiatives the focal point lies with civilians instead of with a governmental body. This calls for a different approach by civil servants. Normally civil servants define the form of participation in an interactive process. With local initiatives the civilians have to show the initiative and civil servants should listen and facilitate when they are addressed (Oude Vrielink & Verhoeven, 2011). This change in the government role would mean a more modest government and making local initiatives a policy instrument.

2.4 Governmental support for local initiatives

Moving to a more participatory form of government is also necessary due to smaller budgets. In the local governments participating in the KliKER project a trend where administrators have to work with smaller budgets and less hours is noticeable. In the past, the central government has been an important financier for climate change mitigation policy, but currently the central government is financially withdrawing itself from financing these policies (KplusV, 2012). For Dutch municipalities this is ill-timed, as they are facing financially hard times from the financial crisis. Budgets for municipalities are shrinking, while more responsibilities are being delegated to them (van Lieshout & Mennes, 2011).

A problem with the new governmental role might be that, whereas government officials think bottom-up is the best way to make policy, other stakeholders might disagree. When they don't come with local initiatives or don't want a reactive but an active role for the government, this might give problems. Bulkeley and Moser (2007) argue that participative policy needs to be well

coordinated. Without coordination participation can paralyse policymaking (Bulkeley & Mol, 2003). The problem is that getting well-coordinated policy might be difficult when stakeholders disagree, for example on who plays what role (Bulkeley & Moser, 2007). This study assumes that having a policy field where views are aligned, will avoid the problems as stated above, and will be more effective.

2.5 Framing

In the policy process communication is very important. The local government, as initiator and catalyst in climate change mitigation policy, needs to convince others to reduce greenhouse gas emissions. In order to convince stakeholders a so called 'frame' can be used. Frames were introduced by Goffman (1974) as a cognitive structure to guide perception and offer a representation of reality. Frames are unconsciously adopted in the course of communicative process. A frame works on a latent level and structures a perception into a representation of reality (König, 2006). When in communication someone receives a message, the brain functions as a filter in order to place the message in their own frame of thinking (De Bruijn et al., 2012). The references in which these frames are stacked for a person are formed by experience and knowledge (Schön & Rein, 1995). In communication a sender can activate a person's frame by certain words, wordings or a metaphor. Some words can invoke a reaction from the recipient of the message. For example when mentioning children, parents might be more inclined to listen.

Frames can be studied through discourse. Discourse is defined by Hajer as "*an ensemble of ideas, concepts, and categories through which meaning is given to phenomena*" (Hajer, 1993). Discourse works both ways, it functions as building block to construct problems and it forms the context in which phenomena and problems are understood. Discourse works as the argumentative structure in documents and in written or spoken statements (Hajer, 1993). Within this context, it deserves attention in what way a message is framed. A precondition for a successful frame is a convincing logic. A frame offers an explanation for a phenomenon, based on logic. The goal is that everyone intuitively agrees to a frame's logic (De Bruijn et al., 2012).

2.6 Four technocratic frames

De Bruijn et al. (2012) name four different frames for climate policy. These frames are important in the climate debate and act to motivate people to act on climate change. The first frame they introduce is "We are losing control". This is the message which Al Gore uses in his book and film 'An Inconvenient Truth' (Gore, 2006). This frame is used to underline the fact that action needs to be taken now in order to regain control. It works through activating values and doomsday scenarios.

The second frame holds the message "We have to preserve a decent world for our children and grandchildren". Our children have to pay the bill in the future for our recklessness now. It calls for love and care for our children. But it also activates a feeling of guilt. Research into guilt has shown that guilt almost never is a reason for changing behaviour. It is also very easy to show that parents do care for their children. This is a more convincing message than a message about parents not caring for their children enough.

The third frame says we have to change ourselves. The central message is that behaviour change is the only solution for the climate problem. Calling for behavioural change, even though this call is supported by hard facts, is not effective. Facts that are not supported by a person's view of the world are rejected. People 'choose' facts based on their view of the world.

The fourth frame is related to trust in the scientific world. A fierce debate is going on between scientists and sceptics of the climate problem. This leads to framing and reframing of the problem and a discussion on trust in the scientific world.

2.7 A new frame

Sceptics of climate change will try to wrong the four frames. They will reframe the message that was framed into a different frame. The four frames didn't fit into the way how sceptics see the world and therefore reframing is necessary. In the climate change debate reframing is relatively easy for sceptics, according to De Bruijn et al. (2012). Sceptics offer a positive message (the world is doing fine) and scientific evidence of climate change is not entirely conclusive. A possible consequence of reframing is that the two opposing parties end up in a process of framing and reframing. To prevent an endless reframing loop, a new strong frame is needed. This new frame should harness a positive message, which leans on general norms and values. These values could be identity, independence, self-development and autonomy, as De Bruijn et al. (2012) suggest. Motivation through this new frame is apparent in the Energetic Society, as (Hajer, 2011) calls it. Changing to this new frame also entails a new way of looking at the problem. In the classic philosophy of control the steps of 'What is the problem?' 'What can we do about it?' 'What is achievable?' have to be followed. In a new frame control should be about governing social energy. This will entail a new type of government that tries to add value to social energy by creating an institutional framework in which local initiatives and social energy can flourish.

2.8 Local catalyst

The availability of governmental budgets and personnel in local climate change mitigation policy is influenced by the local political arena. The local parties that form the municipal council and municipal executive board have the end verdict in the policy goals and the available budget. Having a strong person who has high ambitions on climate change policy can have a positive effect on the goals and budget available. A local catalyst is an active public official, who promotes sustainable policy for the local political and policy agenda (Hoppe & Coenen, 2011a).

3 Methodology

This study applies a multiple case-study research design of two Dutch municipalities. Qualitative methods were used and foremost qualitative data were collected. In this section the research design, case selection, sampling, data collection, data treatment and data analysis will be discussed.

3.1 Research design

A multiple case study research design was used to study the climate mitigation policy process of two municipalities in a detailed way (Flick, 2009). Contemporary events were studied, over which little control could be exerted. The fact that the boundaries of the context are not clearly defined and that the context of the policy process is what is to be studied, makes doing a case study a fitting strategy (Yin, 2003). The research design in this study concerns qualitative cross-sectional research methods. This study leans on academic literature regarding framing and the roles of different actor roles in climate change mitigation policy. Analysing how the different actors view the actor roles is relatively new and explorative.

The first step in research on the actor roles was analysing secondary data. The secondary data consisted of publicly available policy documents relating to the current climate change mitigation policy in Lingewaard and Renkum, general information on the municipalities' websites and information from regional news sites. From this data the interviewees were selected to be interviewed. The actual selection of interviewees changed over time during the research due to information provided by the interviewees⁴. When all interviews were done, the interviews were analysed. They were read carefully and every relevant piece of text was given a category. These categories were conceived on the fly. These categories were merged and ordered to get to a smaller amount of categories in a second and third reading. From these categories it could be easily extracted what different actors opinions on different categories or topics was. The theories in the theoretical framework were used to get to the final categorisation. For every role or frame that was defined in the theoretical framework, a category was made. This made that knowledge from the theories could be reused in the analysis. The design of this process emerged through criteria used by other researches, notably Hajer (1993) and De Bruijn et al. (2012).

3.2 Case selection

As this research will be done in relation to the Interreg KliKER project, the two municipalities were chosen from participating municipalities in the KliKER-project. Municipalities in the region of Arnhem – Nijmegen and German municipalities near Rheinberg, were given the opportunity to join the programme. As the municipalities joined on their own initiative this gives a selection bias.

⁴ In every interview a question the interviewee was asked what stakeholders he/she would identify for the climate change mitigation policy in their municipality. The interviewees were also asked who they would recommend for interviewing. These answers were taken into account in selecting further interviewees.

The municipalities that joined might have been more ambitious or active on climate change mitigation policy to begin with.

To increase comparability of the research, case selection was done by choosing cases that are comparable on certain chosen criteria. The selection criteria were population size, amount of personnel for climate mitigation policy, and the amount of initiative shown by the civil society and private sector in the municipalities. The first two criteria were identified by Hoppe and Coenen (2011a) as being factors related to the intensity of local sustainability policy performance.

Lingewaard and Renkum were chosen as cases to do research on. Renkum has a population of 31,565 inhabitants (Centraal Bureau voor de Statistiek, 2013) and Lingewaard has a population of 45,818 inhabitants (Centraal Bureau voor de Statistiek, 2013). Lingewaard is a very interesting case as there is a local civic energy initiative, 'Lingewaard Energie', being formed in their community. The two municipalities are both multi-polar and consist of multiple villages that are similar in size. They are also both located in the province of Gelderland and therefore can both apply for the same subsidies from the province of Gelderland. In both municipalities the governmental organisations have only recently begun to formulate and implement local climate change mitigation policy and are still learning in that respect.

3.3 Data collection

To make sure data collection is done in the same way for the three cases, a case study protocol was made. A protocol describes the way in which data will be collected for a single case and was used for doing the research on both cases. It will include instruments, procedures, general rules and interview questions (Yin, 2003).

The primary data to be studied in this study was collected by interviewing relevant stakeholders. Interviews were appropriate as interviewing allows *"to approach the interviewee's experiential yet structured world in a comprehensive way"* (Flick, 2009, p. 177). These interviews were open, case-sensitive and semi-structured, to allow for new or hidden themes, while keeping focus on the subject (Varvasovszky & Brugha, 2000). By using qualitative data, new aspects that emerge while doing research could still be implemented during data collection and analysis (Varvasovszky & Brugha, 2000). Before doing interviews, secondary data in the form of policy documents, local news, rules and regulations and other written documents were collected. The data available was collected in an ATLAS.ti-database, in order for the functionalities of the package to be used during data analysis.

3.4 Interview sampling

Stakeholders will firstly be identified through analysing policy documents. Further stakeholders will be identified through asking interviewees who they identify as being stakeholders. (Varvasovszky & Brugha, 2000). The main concern for selecting interviewees was making sure that stakeholders from different fields were interviewed, being the private sector, the civil society and the local government. The second criterion was the importance of the stakeholder in the policy. For Lingewaard in the civil society sector for example was chosen for Lingewaard Energie,

as they are a very well organised group of civilians who clearly have ambitions in climate change mitigation. In Renkum there was no such organisation. There are neighbourhood organisations, remain in contact with the local government and function as a sounding board for the local government. The neighbourhood organisations are not directly related to climate change mitigation policy, but they are important representatives for the civil society in Renkum.

3.5 Data analysis

The collected data will be analysed through discourse and frame analysis. The interview text and secondary data are the 'discussions' and empirical object of study. 'Discourse' is the pattern to be found in the discussion (Hajer, 2002). The pattern will be created in relation to the concept of framing. Actors use certain frames in discussions. What frames were used and especially in what way they were used was researched. The frames will be identified using the characteristics introduced by De Bruijn et al. (2012). These characterise frames as being worded in a specific manner to make the receiver of the message positive towards the message, frames also motivate through societal and inner values, frames use linguistics, like metaphors, frames are repeated often and activate to think about them through repetition (De Bruijn et al., 2012). Frames on climate change mitigation policy by De Bruijn et al. (2012) were used and frames were identified by the criteria in the same article. The frames were checked for relevance in the available data.

In order to fully interpret the interviews, the text was categorised multiple times. The first time, this was done using open coding technique (Flick, 2009). Texts were categorised without predefined categories, based on interpretation by the coder. In the interpretation importance was given to judgements on climate change mitigation policy in general and specifically on the roles the different actors play in the policy. Another point of attention was everything on participation and the energetic society. The theoretical framework was used to create logic and order in the categories that resulted from the first categorisation. The eventual categories were all related to roles or frames defined in the theory.

Data were treated, organised and categorised in the ATLAS.ti software package. After categorisation, the actors views and opinions were analysed per category. Because of the categorisation, it could be easily seen for example which actor used which frames. The actors were compared with each other to see whether there were similarities and differences between the views on climate change mitigation policy. From these similarities and differences the final conclusions were drawn.

4 Case study descriptions

4.1 Stakeholders

In a local community there are multiple persons and organisations that can be identified as stakeholders in the climate change mitigation policy.

First, the local government is a stakeholder, as this governmental body formulates and implements climate change mitigation policy. They are also directly responsible for a substantial part of GHG emissions, through energy use in the town hall and offices and by using the vehicle fleet. The municipal government roughly consists of three parts. The municipal council is filled with elected members of political parties. It is where local political decision making takes place. The municipal council chooses their municipal executive board (in Dutch 'College van Burgemeester en Wethouders') with the municipal executive board members and the mayor. Each board member has their own portfolio and together they control the municipal civil service.

Second, the inhabitants of Lingewaard are stakeholders in the policy. They add to the municipal CO₂-emissions through for example the heating of houses and use of cars. The inhabitants have influence on the policy through elections for the municipal council. In principle they are not organised, but they sometimes form groups as association of inhabitants and community green energy projects. An example here is Lingewaard Energie, which is an energy cooperation initiated by inhabitants of the municipality of Lingewaard.

Third, local business and entrepreneurs are stakeholders in climate change mitigation policy. They are responsible for a large part of CO₂-emissions within a municipality. They are also important in other ways, they can for example provide sustainable measures, like insulators and windows installers, and therefore profit from more demand for their products. Or for example housing corporations who have the possibility of making the houses they own more energy efficient. Business can be organised through associations of entrepreneurs or specific associations for business parks.

4.2 Lingewaard

Lingewaard is a small municipality which consists of eight villages with a total population of 45,818 (Centraal Bureau voor de Statistiek, 2013). These are (from big to small) Huissen, Bemmelen, Gendt, Angeren, Doornenburg, Haalderen, Loo and Ressen. Lingewaard was formed by merging the municipalities of Bemmelen, Gendt and Huissen in 2001. The merge was needed as the three separate municipalities were relatively small and didn't want to be added to Arnhem. Arnhem is a large city and the municipalities feared for losing their rural image and green spaces and becoming a suburb to Arnhem. Through this fear citizens became more positive towards merging, while they were more resilient in the beginning ([de Vries, 2000](#)). he beginning ([de Vries, 2000](#)).

4.2.1 Climate change mitigation policy in Lingewaard

The municipality of Lingewaard is actively profiling itself as striving to become 'green'. It made the regional newspaper three times with initiatives to make their employees behave more sustainably. Two electric cars are leased and two e-bikes and e-scooters were bought, to stimulate employees to use their bike or public transport to come to work, as they don't need their car to travel to appointments. (De Gelderlander, 2013a, 2013c). The municipal organisation is stimulating their employees to behave sustainably through participation in an energy battle (De Gelderlander, 2013b). On the municipalities website there is a lot of information on sustainability for companies and inhabitants. Direct tips are given to improve energy efficiency and the website links to other governmental bodies who have subsidies available (Gemeente Lingewaard, n.d.-a, n.d.-c). more resilient in the beginning (de Vries, 2000).

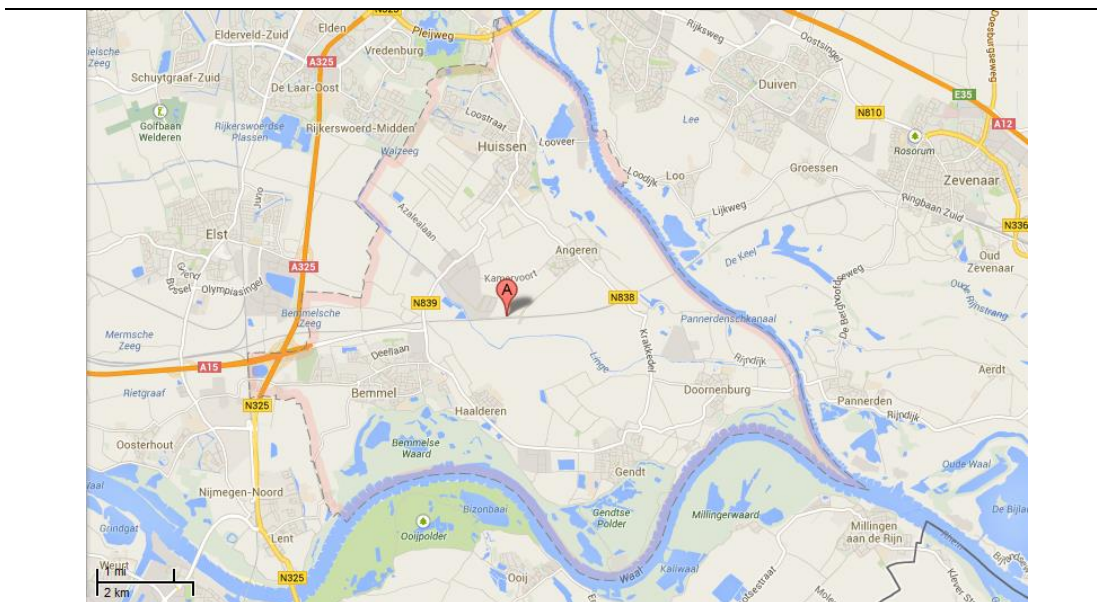


Figure 4.1 Municipality of Lingewaard (Google Maps)

Lingewaard started being active in climate change mitigation through the development of greenhouse area "Bergerden", where the first horticulturists established themselves in 2003 (Gemeente Lingewaard, n.d.-b). Making this area sustainable in all aspects was a fundamental principle in the development of this area. The building plots for example were made right-angled to maximise the usable area for greenhouses (16:225). According to a stakeholder closely related to the greenhouse sector sustainability and lowering of energy use were important issues for Bergerden, because the involved companies made this an important issue. For glasshouse companies energy use is a major variable cost, so reducing these costs as much as possible has a high priority (16:124, 16:215).

Actual climate change mitigation policy was introduced in Lingewaard through the "Milieubeleidsplan 2010-2014" (environmental policy plan 2010-2014). With this plan Lingewaard

tried to give body to the Climate Deal which was initiated by the VNG (association of Dutch municipalities) and constituted a deal between the municipalities and the national government (Gemeente Lingewaard, 2009). Lingewaard also supported the Climate Deal. The municipality committed itself to comply with the goals that were described in the Climate Deal. In the Climate Deal the following goals were agreed upon: 30% reduction of greenhouse gas emissions in 2020 compared to 1990, 2% energy use reduction per year until 2020, and 20% of the energy demand has to be renewable by 2020. Designing specific policy on sustainability and climate change mitigation was new for Lingewaard municipal staff. The policy actions, for example, were generic, like stimulating sustainable forms of energy, like wind and solar energy, through giving information (Gemeente Lingewaard, 2009). In order to accumulate knowledge on this policy field a sustainability coordinator was appointed.

In 2011 a new policy document emerged, which focussed on sustainability alone, the “Kadernotitie duurzaamheid 2012-2015” (framework memorandum on sustainability 2012-2015). It is constituted to give clarity on the subject of sustainability and to centralise policy on sustainability as it was splintered across different policy documents. The municipal executive board in Lingewaard agreed on the following in their coalition agreement: Sustainability is one of the fundamental values from which the coalition wants to rule; The municipality has an example function and should embed sustainability in all aspects of the municipal organisation (Meynen, 2011). It is clear that by now the municipality has more experience and knows what stakeholders are active in the field of climate change mitigation policy. In addition to the ambitions in the environmental policy plan, Lingewaard also set itself the goal to be a ‘climate neutral’ organisation in 2020 and the goal for the entire municipality is to be ‘climate neutral’ in 2040. Climate neutral in this context means that in the organisation or municipality there is no net emission of CO₂. Lingewaard also has ambitions to be in the top hundred municipalities of the Dutch local sustainability performance meter and in the top five of most sustainable municipalities in the province of Gelderland (Meynen, 2011).

In the framework memorandum, the professionalism is visible in the fact that now the current situation is better analysed. A CO₂-emission scan was done and it was concluded that in Lingewaard a reduction in CO₂-emission of 11.7% was realised, which is a little over a third of their goal for 2020. This information, together with their score on the local sustainability meter 2011 was used as input for the “Kadernotitie duurzaamheid 2012-2015” (Meynen, 2011).

Through the KIIKER project, funding is available for consultancy firm Tauw, to create a roadmap on climate change policy for each municipality participating in the program. For Lingewaard this is used to create an internal document, in which a new CO₂-emissions analysis is done. From this analysis it is argued on which fields Lingewaard should focus in the future and what actions should be taken. This is actively debated and communicated with officials and servants from different policy fields in order to get support and action throughout the municipal organisation. This document is planned to be finished in the beginning of February 2014.

4.2.2 Stakeholders

A selection of stakeholders was interviewed to check what view they have on the roles of stakeholders in local climate mitigation policy. Stakeholders were selected based on their importance in the policy. From each group of stakeholders someone was chosen. Two civil servants for the municipal government were interviewed, working in different policy fields. In the local businesses, someone responsible for one of the two housing corporations in Lingewaard was interviewed. Also two active members of an association for local entrepreneurs were interviewed. A group of inhabitants in Lingewaard is in the middle of constituting a local green energy cooperation. One of the initiators of 'Lingewaard Energie' was interviewed.

Municipal government

The first person interviewed in the municipal organisation is one of the two persons responsible for sustainability policy in Lingewaard. He is actively working together with the sustainability coordinator, but is formally not working for the municipality of Lingewaard but for the 'ODRA' (environmental service agency for the region Arnhem-Nijmegen) (16:227). In the past he did work for Lingewaard directly and therefore knows the organisation and civil servants working there (16:226). He was interviewed to get the perspective of a climate and environmental policy designer on the climate change mitigation policy in Renkum.

In the municipality also the project manager for area development was interviewed (16:228). He was the representative for the municipality of Lingewaard in the project greenhouse area Bergerden, which was one of the first sustainable projects in Lingewaard (16:229). He is currently managing a project that researches the possibilities for sustainable energy in Lingewaard (16:230). Interviewing him was done to acquire the view of executive civil servants on climate change mitigation policy. This specific servant was chosen, as he was involved in the development of glasshouse area Bergerden and is currently managing several projects related to sustainability.

Entrepreneurs - WaardWonen

Housing corporations often own a large portion of the total amount of houses in a municipality, making them important stakeholders in climate change mitigation policy. Housing corporations have a responsibility to their renters to maintain the buildings. They also see the importance of energy saving, because of climate change, finiteness of fossil fuels and increases in energy price in relation to the cost of living (Spies, Hazeu, Laurier, & Kamminga, 2012). In order to act on this and make the houses more energy efficient, the umbrella organisation of housing corporations came to an agreement in 2012 with the Minister of Internal Affairs, the Dutch tenants association 'Woonbond' and the association of private investors in real estate 'Vastgoed Belang'. In this agreement, the 'Convenant Energiebesparing Huursector' Aedes commits here member organisations to an average energy label of 'B' for their houses by 2020, which would mean a reduction in energy use of 33% in 2020 in relation to the energy use in 2008. Also more recently the Social Economic Council in the Netherlands (SER) initiated the 'Energieakkoord' (energy agreement). This agreement was signed by forty parties, including Aedes. In this energy

agreement the central government makes 400 million euros available for the rental companies for the period 2014-2017 to help in the achievement of the ambitions in the Covenant Huurbesparing Huursektor (SER, 2013). Housing corporations are thus actively thinking about becoming more sustainable. Lingewaard has two housing corporations, being WaardWonen and Woonstichting Gendt. Woonstichting Gendt is a corporation that only manages buildings in Gendt, while WaardWonen has assets in almost all villages in Lingewaard (Waardwonen, n.d.; Woonstichting Gendt, n.d.).

From housing corporation WaardWonen the manager of real estate and development was interviewed. He is concerned with renovation, maintenance and new construction projects (16:231). Sustainability for housing corporations mainly concerns the property they own, which makes the manager of real estate and development the most interesting employee to interview.

WaardWonen does communicate actively with the municipal organisation in form of the mayor and the councillor, and according to the interviewee this is mostly on general business (16:224). Quality of life is an important aspect in the general business and climate change mitigation is a part of that. The attention WaardWonen is giving to reducing energy use is mainly motivated by the need to reduce housing costs for tenants and partly motivated by the goals set by the umbrella organisation Aedes (16:167).

Entrepreneurs – VERON

VERON is an association for local entrepreneurs 'VERON' in the region of Boven-Betuwe. Boven-Betuwe is a region which consists of Lingewaard, Overbetuwe and Neder-Betuwe. VERON is an advocate and a network organisation for participating entrepreneurs. The thirty members of the association remain in touch through the VERON website, mailings, network meetings and theme meetings. On average there is a meeting once a month, excluding holidays (16:232). These meetings can be on all kinds of themes or subjects. If possible VERON tries to be a podium for members or external parties who want to share their knowledge or believes. This way they share knowledge to their members, who can possible gain and learn from the knowledge that is shared (16:233).

Two members of VERON were interviewed. They are both members of the committee for local economics and politics. As a member of the committee they have regular talks and consultation meetings with the municipal executive board (16:234). One of the two commission members has been a director at the fruit and vegetables auction and has always had extensive relationships with the horticultural sector and thus the farmers in glasshouse area Bergerden (16:235). The interviewed thus are directly in contact with the municipality and have knowledge on what is happening on sustainability in Lingewaard.

The VERON's board and their committees try to stay in touch with the municipal government of Lingewaard (16:118). The committee for local economics and politics for example has periodic meetings with the administration of the municipality, about two or three times a year (16:236). Sustainability and reducing greenhouse gas emissions is currently not a subject on which VERON

is focussing. It is has not come up from their members and also has not been introduced or stimulated by a third party (16:119). VERON is actively maintaining contact with the municipal government in order to be able to defend the interest of her members when necessary. VERON is also open for communication the other way around (16:218). This could be for example when the municipal government has an interesting new policy or something else they want to share to local businesses or want an opinion on. VERON is very much prepared and enthusiastic to share information to their members and would like to fulfil a role as channel of communication to the entrepreneurs (16:213).

Local Energy Cooperative

The most relevant organisation of inhabitants in Lingewaard concerned with climate change mitigation policy is Lingewaard Energie. Lingewaard Energie is an energy cooperation initiated by inhabitants living in the different villages of the municipality of Lingewaard. The energy cooperation was founded officially on 13 December 2013, but only after a year and a half of planning and preparation work (Lingewaard Energie, 2013). The entire process was started by local politicians in Lingewaard, who brought together a group of interested individuals from their own network. From this group a small core was formed, who have now officially founded the energy cooperation Lingewaard Energie. They want more awareness and dissemination of information on sustainability and energy use reduction. With more awareness and knowledge on sustainability they want to reach collective sustainable energy generation in the municipality of Lingewaard (Zoetbrood, 2013). The will to reach their goals, comes from ideals and is not profit driven. Their goal is to produce a minimum of 20% of the energy demand by the inhabitants of Lingewaard in 2020. This should be done sustainably and collectively and at a competitive price. It is important the sustainable energy is produced locally in order to become less dependent on fossil fuels and on large-scale production of energy (Zoetbrood, 2013).

The founders chose to constitute Lingewaard Energie as a cooperative. In a cooperative, profit can be divided amongst members of the cooperative, whilst this would not be possible when being an association or a foundation. These profits could motivate inhabitants of Lingewaard to become a member of the cooperation.

At Lingewaard Energie, one of the co-initiators of the entire program was interviewed. He is a member of the leading project group. He also leads one of the working groups and is a member of another. The working group he leads is concerned with technical and financial advice and the other group he is a member of is concerned with the organisation of the initiative (16:238). He is one of the eighteen members that are active in the initiative in total (16:237). The person interviewed has been involved with the cooperative from the start and has extensive knowledge on the organisation as well as technical and financial insight into the projects and therefore is interesting to interview in relation to climate change mitigation in Lingewaard.

4.3 Renkum

Renkum is located on the border between the hillsides of the Southern-Veluwe and the Gelderse River area. There are 31,565 people living in Renkum (Centraal Bureau voor de Statistiek, 2013).

They are divided amongst the villages Oosterbeek, Renkum, Heelsum, Wolfheze, Doorwerth and Heveadorp (Gemeente Renkum, 2013b). These villages are connected through their shared history with the Battle of Arnhem. In September 1944 the Dutch First Airborne Brigade and the British First Airborne Brigade landed in the municipality of Renkum and took hold of Hotel Hartenstein, before they were beaten by the Germans. The memories of this time are still present in all villages and the activities surrounded by the Airborne Memorial are known nationwide (Gemeente Renkum, 2013c).

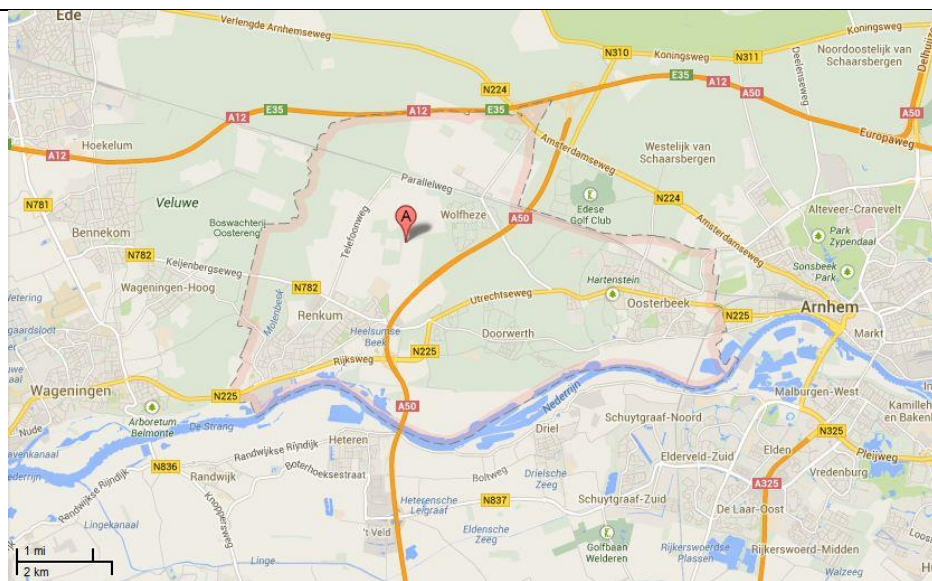


Figure 4.2 Municipality of Renkum (Google Maps)

4.3.1 Climate change mitigation policy in Renkum

The main policy document on sustainability in Renkum is the “Kadernota Duurzaam Renkum” (framework memorandum sustainable Renkum). This is the first policy document that focuses specifically on sustainability (Gemeente Renkum, 2010b). Before that the municipality of Renkum did have energy policy in order to reduce energy use as much as possible, but this policy is now widened to cover climate change mitigation policy in its totality (Gemeente Renkum, 2013d). The “Kadernota Duurzaam Renkum” is a product stimulated by the municipal executive board of 2006-2010, who agreed in their coalition agreement that “sustainability should be a leading principle on all policy fields under this municipal board” (Gemeente Renkum, 2010b, p. 5). The framework memorandum does not contain any specific ambitions in greenhouse gas emission reduction or for being a frontrunner, as Lingewaard’s framework memorandum does. The argumentation for this lack of specific goals is that setting a goal to be climate neutral in 15 or 30 years is too farfetched, the current generation won’t be administratively responsible in that time. As these goals are too far away, the municipality of Renkum believes that they don’t motivate or stimulate change enough and may lead to procrastination (Gemeente Renkum, 2010b).

The municipality of Renkum chooses for integral policy on all fields related to sustainability. For every decision sustainability should be an issue and the most sustainable possibility should be chosen. An instrument to stimulate this is the demand for a sustainability paragraph in every governmental document, which activates the writer of a document to think about sustainability. To help civil servants with this paragraph, an assessment framework with possible consequences for sustainability is included in the "Kadernotitie Duurzaamheid" (Gemeente Renkum, 2010b).

In 2010, elections for the municipal council were held and a new coalition was formed. The new coalition and their coalition agreement again emphasised the need for sustainability in policy and the further integration of sustainability in all policy fields. Specific actions, like for example doing a CO₂-emission scan for buildings owned by the municipal government and making them more energy efficient if necessary, were included (Gemeente Renkum, 2010a). Not having information on CO₂-emissions and not having goals in terms of CO₂-emission reduction proved to be a problem in the evaluation of energy and climate policy for 2009-2012. No conclusions could be drawn on whether CO₂ emission reduction goals were achieved or not. It could only be explained which projects did or did not succeed (Gemeente Renkum, 2013a). The only CO₂ emission reduction goal Renkum set, is the national goal to reduce CO₂ and equivalent emissions by 20% by 2020. This is only mentioned though; there is no explicit commitment or ambition to reach this goal.

In the "Milieunota 2013-2016" (environmental policy note) specific goals are set. Firstly the municipal organisation itself should reduce CO₂ production with 25% till 2016. The CO₂ emission of the entire municipality is not analysed yet, so this is an action the municipality had planned to do for 2013. The results of this CO₂ scan were not reported yet, however. There is also no specific goal for reducing CO₂ emissions. The municipality did include a goal to be climate neutral in 2014 though. Not only a general goal to 2040 is mentioned, also the creation of a roadmap with quantitative sub goals to be climate neutral in 2040 is planned (Gemeente Renkum, 2013d). This is clearly a turnaround from the framework memorandum, where this was deemed counter efficient (Gemeente Renkum, 2010b). The municipality of Renkum is now also actively learning from other stakeholders in the region through collaboration projects like the KliKER project⁵ and regional projects initiated by the Stadsregio Arnhem-Nijmegen. Funding available through the KliKER project is also used in order for Tauw to advise Renkum in the roadmap to 2040.

4.3.2 Stakeholders

For Renkum a similar group of stakeholders to the group in Lingewaard was selected. Here also two civil servants were interviewed. In Renkum there is no sustainable energy cooperative. To get a view from the civil society on the climate change mitigation policy a concerned and active citizen in Renkum was found. This concerned citizen is also a representative for a local nature organisation 'de Vereniging van Vijf dorpen', which is committed to protecting the rural green and rural character of the villages (15:239). To get a more extensive view on the communication and

⁵ Participating municipalities learn through workshops and excursions, where information is given about possible policy instruments but also information is shared on successful sustainable initiatives. Best practices and experiences are shared through teamleader meetings.

climate change mitigation efforts in Renkum, also the chairman of a local residents association was interviewed (15:238). In the business sector, the owner of 'Het Groene Bedrijf' (The Green Company) was interviewed. The company stimulates other businesses to make a sustainability report through providing a software package (16:240). The company is in start-up and run by a single person. The owner of 'Het Groene Bedrijf' is also active in making Renkum sustainable through other projects, like a website and initiatives with local sporting associations for example (16:242).

Municipal government

In the municipal organisation two civil servants were interviewed. The first has worked in the municipal organisation for a long time in different functions. He currently is working for Renkum and four other municipalities (15:241). He mainly works in Renkum though and has been working on sustainability for some time now. He has represented Renkum in the KLIKER-project (15:243). He was interviewed in order to get the view of someone who is closely related to the preparation and the execution of climate change mitigation policy.

The other civil servant interviewed works on the edge between management and politics. He is responsible for checking all proposals that are sent to the municipal executive board or to the municipal council. He is responsible for checking if they are integral and complete and whether or not the argumentation is correct or not (15:244). Checking all these documents makes that he knows the entire organisation (15:245). He is also the 'business contact officer' for the municipality, which means he is the main contact for companies communicating with the municipality. In this function he talks to companies periodically and more often when requested (15:246). Through his function of business contact officer he participates in the working group for fair trade in Renkum. This group consists of civil servants and inhabitants of Renkum who are inspired or motivated to help in their free time. They try to make businesses in Renkum more fair trade in order to consolidate the title of fair trade municipality, that Renkum has earned (15:250). Fair trade is not the same as sustainable and doesn't directly relate to reductions in greenhouse gas emissions, but the working group tries to popularise greenhouse gas reduction while discussing fair trade (15:250). This combination makes him an interesting person to interview.

Local entrepreneurs – Het Groene Bedrijf

The next interviewee is the owner of 'Het groene bedrijf', a green ICT company. This company tries to help other businesses by providing them a software service. The software package he offers, helps in making a sustainability report, which can be used to analyse where possibilities are for reducing energy use or for investing in sustainable alternatives (15:240). The owner of this green ICT company is also working in other ways to make Renkum more sustainable, for example through a website but also through all kinds of other initiatives (15:242). The non-profit activities he does are mainly focussed on reducing CO₂-emissions at local sporting associations. He tries to reduce costs and through reducing costs help people realise that they are also doing something environmentally friendly (15:248). He is experienced in motivating other stakeholders in Renkum (including the municipal organisation) to become more sustainable and especially in

motivating businesses or entrepreneurs (15:249). His main line of communication to the municipal organisation is through the working group that tries to make Renkum more fair trade (15:121).

He has read Renkum's policy on environmental policy. He actively establishes contact with the municipality to try to act on what he thinks can and should be done better (15:251). Other actions he takes to motivate actors is inviting individuals from a specific sector together with a civil servant from Renkum. With all these actors together he tries to start a discussion on sustainability with which he hopes to get to a sense of urgency to become more sustainable (15:252).

Local nature organisation – Vereniging van Vijf dorpen

In Renkum a person who calls himself a concerned and active citizen was interviewed. He works at KWR Watercycle research institute. He is hydrologist and ecologist and uses his knowledge in his spare time to help the local municipal organisation (15:237). As a concerned citizen he is actively participating in municipal sounding board groups. He is also active in the 'Vereniging van Vijf Dorpen' (association of five villages) (15:170). This organisation is committed to saving the rural character of the villages of which Renkum consists. The organisation wants to preserve the rural nature in the surroundings of the villages (15:239). They are actively representing and defending their interest with the municipal organisation (15:172, 15:178). They are actively speaking with the municipality on their nature interests, but this does not include reduction of greenhouse gas emissions unfortunately (15:179). He is still an interesting party to interview as he has extensive contact with the municipality and experience with trying to influence the municipal organisation and has experience with climate adaption policy, which is related to climate change mitigation.

Local residents association – Fluitersmaat

Fluitersmaat is a small neighbourhood in the village of Renkum. When the neighbourhood was built, thirty-five years ago, the inhabitants started a residents association. The association was given an old farm as a clubhouse (15:254). The association was founded in order to represent the interests of the inhabitants and to organise all kinds of activities (15:253). The association is still flourishing and publishes a local paper six times a year (15:255). This local paper is also sent to the municipal organisation (15:212). The municipality of Renkum sees Fluitersmaat as a good example of how a residents association could function (15:206). The association is taken seriously when they communicate with the municipality (15:212). The other way around the municipality also comes to the residents association when something in the neighbourhood is about to be changed (15:213). The residents association is therefore very satisfied with their relationship with the municipal organisation (15:214).

Climate change is not a standard subject for the residents organisation and the chairman has no specific knowledge on the climate change mitigation policy in Renkum (15:217). Sometimes climate related issues do come up however. When an inhabitant placed solar panels on his roof, the residents association organised an information session on solar panels with a presentation by the early adaptor (15:211).

5 Results

Here the results will be discussed. The written out interviews were analysed using Atlas.ti, as is explained in the methodology data analysis section. The first sub question of the research question concerns the frames stakeholders have on the role of the local government in climate change mitigation policy. During the analysis of the interview transcripts, what was said about the role of the government was key. As this is a very broad subject, three categories were used in order to get to a frame on the role of the government. The first category is 'Example function'. Example function refers to everything the local government could possibly do to directly affect energy use and reduce greenhouse gas emissions. For example reducing paper use or making the buildings they own more energy efficient. The second category is 'Motivating or stimulating change' which equals influencing local actor networks as Hoppe and Coenen (2011b) describe it. It concerns everything the local government can do to motivate or stimulate other stakeholders to reduce greenhouse gas emissions. The third category is 'Facilitation' and refers to the local government facilitating initiatives intending to reduce greenhouse gas emissions. Examples of facilitation by local governments are consultation, organising information exchange discussions and providing subsidies (Hoppe & Coenen, 2011b).

The actual analysis of the different views begins with interpretation of the quotes to which the categories are attached. The analysis was typed out into the category comments and can be found in the Atlas.ti copy bundle. Each part of the analysis be explained in separate paragraphs below. The names of the categories are partly made based on the researchers interpretation but are mainly based on the theories in the theoretical framework. In the analysis it was tried to stay as close to the meaning structure of the interview texts. By staying close to the meaning conclusions could be drawn on what is closest to the actual stakeholder views. Categorisation can't go without some form of interpretation however, as the specific wording and context of the message will be lost.

5.1 Example function

When motivating a change in the local community, setting the right example is an important factor. All stakeholders that were interviewed agree the local government should invest in making their own organisation more sustainable (15:15, 15:72, 15:128, 15:223, 16:57, 16:7, 16:8, 16:44, 16:55, 16:152, 16:178, 16:188). The local government can influence the amount of greenhouse gas emissions it produces through a range of different factors, for example investing in the office buildings and making them more energy efficient or make the energy supply more eco-friendly through placing solar panels. Another option is stimulating all civil servants to behave more sustainably in the office, by making sure they use as little paper as possible, turn lighting and heating off when they leave their office and by stimulating them to use sustainable ways of transportation when on business trips. The municipality of Renkum for example has an energy efficient town hall and other buildings owned by the municipality will be renovated and made more

energy efficient in the summer of 2014 (15:77). The town hall also has a heat/cold storage system (15:116).

Through setting an example in become more energy efficient the local government is more believable when stimulating and motivating others (15:128, 15:129, 16:7, 16:8, 17:15, 18:1). Problems with setting an example can be caused through information dissimilarities between the local government and other stakeholders. So maybe the way you present and communicate to others that you reduce greenhouse gas emissions is more important than actually reducing greenhouse gas emissions (16:57). Where the local government can be convinced all efforts within reach of budget are being made to reduce greenhouse gas emissions, other stakeholders might not know of these efforts and only notice what doesn't happen. In Lingewaard for example, the interviewee at the local energy cooperation does know the municipal organisation has ambitions to make the organisation more energy efficient, but doesn't know what they do (16:55). He suggests the municipal organisation should promote their ambitions by placing solar panels or a small wind turbine (16:56). Even though these investments might not be viable on the long term due to low energy prices for the municipal organisation, they do clearly set an example for other stakeholders (16:57). Without effectively presenting or promoting a green image, stakeholders might feel like the municipal organisation is all talk and no action (16:212).

Another reason for a municipality to start with reduction of greenhouse gas emissions within the municipal organisation is in order to be able to call on the frame that calls on changing yourself. A civil servant for the municipality of Renkum used the Dutch campaign slogan "a better climate starts with yourself" in this context (15:72). First insulate your own municipal buildings and then motivate the inhabitants of your municipality to do the same.

5.1.1 Integral policy

Sustainability can be seen as an issue in a range of different policy fields rather than a separate policy field. Sustainability is not something that can be acquired by a sustainability coordinator alone, but it should be present in all different policy fields (15:91). In Renkum, every document that is presented to the municipal executive board has to include a paragraph on sustainability (15:100, 15:152). In the paragraph the writer has to explain what sustainable consequences the proposition has or doesn't have. This paragraph is obligatory and is meant to stimulate all civil servants to think about the sustainability while writing propositions. Taking up sustainability integrally in policy means that civil servants go out and actively consider sustainable solutions to known problems. The municipality of Lingewaard for example is considering building a solar panel field on dormant property or cultivating biomass on dormant property (16:85). Renkum has adopted in their sustainable policy document that every sustainable alternative or initiative that has a payback period of five years or less, has to be adopted (3:14).

In Lingewaard the municipality build a new energy efficient town hall. The community isn't aware however that it is a very green building with good insulation. Contrary to the buildings the municipality uses itself, some other buildings they own are not insulated at all (16:125). One of these other buildings is used by a culture organisation, which noticed an increasingly high energy

bill. The fact that the energy bill was rising significantly due to a lack of insulation was admitted by a civil servant and the civil servant agreed to a cost compensation. No action was taken to insulate the building any further however (16:216). This specific example was experienced by one of the persons interviewed from VERON, who is also active in a culture organisation. It are these examples that make it look like the government is all talk but no action and thus dent the credibility of a local government. To prevent this from happening, policy should be made integrally through all policy fields.

5.2 Motivating or stimulating change

In order to motivate or stimulate change the local government needs to influence actor networks. Hoppe (2013) sees two roles for local governments in influencing actor networks: being an initiator or being a catalyst. To influence actors, motivation through a certain way of thinking or a frame is necessary. Here the frames introduced by De Bruijn et al. (2012) can be used to motivate others. Below it is discussed whether stakeholders used these frames to motivate others or whether they used other frames.

5.2.1 Frames

A different frame towards motivating actors to take action is through taking responsibility (17:18). This frame is called 'Taking responsibility'. Lingewaard Energie for example is trying to create a sustainable source of energy in Lingewaard for inhabitants of Lingewaard. They want to be able to control the energy supply instead of being dependent on large-scale energy companies (16:206). Through being self-sufficient the cooperation Lingewaard Energie takes their responsibility in reducing greenhouse gas emissions. Seeing the task of Lingewaard Energie as creating a dependent source of energy for a community is a strong positive message, as De Bruijn et al. (2012) describe to be important for creating a change. A community can become more autonomous through creating a green energy source.

The frames introduced by De Bruijn et al. (2012) are also used by the different stakeholders that were interviewed. The frame that tells to start the change with changing your own behaviour is used by different actors as a reason for the municipal government to start with making their own organisation more sustainable and set a good example. As explained more elaborate in the Example function paragraph, this is stated by civil servants in Renkum, but also by the people interviewed at VERON (15:72, 16:152). The policy document 'sustainability in Renkum' calls on the 'start the change with yourself frame', but also calls on the frame 'We have to preserve a decent world for our children and grandchildren'. The frame to preserve a decent world for our children is not called on by the interviewed stakeholders and also the frame that we should follow the advice of the scientific world is not used during the interviews. The fourth frame, we are losing control is used by the interviewee from Lingewaard Energie as well as the interviewee from WaardWonen. The interviewee from Lingewaard Energie says that the honest story should be told, that if we continue on like this, all the energy would be gone in twenty years (16:221). The interviewee from WaardWonen says we should become more aware of the effects that our actions have, and of what it means if we continue to use like this (16:180).

Another reason for people to invest in green energy or for people to reduce their need for energy is the financial aspect of these measures. Investments in sustainability often offers return on investment in the long run. The actions in the glasshouse business in Lingewaard illustrate this. The glasshouse sector is a sector where energy costs are major part of the total costs made (16:217). Glasshouses are large buildings with only glass, so little insulation. The climate inside the glasshouse needs to be warm and light. Because of the high energy costs, companies in the glasshouse sector are more aware of their energy use (16:124, 16:215). Companies in this sector are already being more sustainable in order to reduce costs (16:106, 16:214). According to a civil servant at Renkum, this will work the same way for private individuals and other businesses, as soon as their energy bill becomes high enough and good alternatives are available (15:84).

Investing in sustainable energy offers return on investment in the long run. The financial aspect of sustainable measures can therefore offer a motivation to become more sustainable (17:3). As traditional energy costs are also rising, the motivation can become even greater (17:14). Calculating to actors what they could earn or save on costs by taking sustainable measures could be a possible way of stimulating change, as civil servants from Lingewaard and Renkum suggest (15:84, 16:173). The interviewed founder of Lingewaard Energie agrees to this suggestion and stated that he believes that a financial advantage is necessary for people to change (16:70). WaardWonen is investing in making their houses more energy efficient for similar reasons, to reduce the energy bill for their tenants (16:166).

5.2.2 Information and communication

Lingewaard and Renkum have similar media through which they communicate to their inhabitants. Both make use of their website, local newspapers and other local press (15:75, 16:3, 16:222). The two municipal governments also both took the initiative to organise a so called 'energy market' (15:4, 16:39). Different stakeholders in anything energy related are invited. This way companies, for example, are easily brought into contact with inhabitants and possible customers (16:41). Renkum even organised different energy markets for different groups of stakeholders. They held one for private persons, one for businesses and one for civil servants (15:5).

Discussing informing and communicating will be divided into two parts here. First people have to be aware of the fact that change is necessary. To reach this awareness the frames mentioned earlier can be used. When they are aware it is useful to make them aware of possible green or sustainable alternatives or behaviour changes. This is the sharing knowledge part of informing.

Awareness

Creating awareness is something a lot of actors have an opinion about. The general tendency is that it is necessary to make other actors more aware of climate change problems (15:222). The owner of Green ICT company 'Het Groene Bedrijf' has the opinion that with a little extra awareness for the problem, a lot of difference can be made (15:48). According to Lingewaard Energie and WaardWonen awareness has not yet been reached with a lot of actors (16:71,

16:181). A civil servant from Lingewaard is more sceptical however. Awareness is not the only condition, stakeholders also need to have time and resources available to be able to change (16:107). A civil servant from Renkum has a similar opinion. In his view the difficulty is more in getting to a change in behaviour, as people can be well aware of their being wrong and refuse to change (15:151). The Lingewaard civil servant concluded that even though there already is awareness on the climate change problem, there always should be worked on more awareness through sending newsletters and organising meetings for entrepreneurs (16:111). There is also a big difference between types of stakeholders. Business sectors where energy is very close to the core business, like the glasshouse sector, are very much aware of their energy use and are frontrunners on sustainability in this respect (15:247).

Sharing knowledge

In the municipal government there is a lot of knowledge on possible sustainable solutions. Sharing this knowledge could help inhabitants to change to these alternatives (15:130). The interviewee from WaardWonen said that house owners should be informed about what the consequences of energetically improving your house means for the energy bill and what CO₂-emission reduction can be achieved (16:174). Businesses should be informed on the possibilities of generating energy on a small scale, by using wind turbines and solar panels (15:236). A way to share this knowledge and inform people is for example organising an energy market, as mentioned before. Setting up meetings between different actors not only stimulates sharing knowledge, but also helps in forming informal networks (15:148).

The municipal government is a body that has lot of relations to different actors on different subjects. Some interviewees pointed out this feature, as where a difference in climate change mitigation for the municipality could be made. The owner of a green ICT company was very clear in this. He is actively trying to bring people from specific sectors or business areas together and discuss possibilities to become more sustainable with them (15:18). He is of the opinion that this is a task the municipality should actively take on (15:36, 15:54). This relates to making integral policy. Make sure all civil servants are actively thinking about sustainable alternatives. And for example when restructuring a business area, use the meetings with the companies to come to sustainable solution like making use of each other's waste (15:139). By bringing actors together as a municipality, actors might be able to help each other through informal relationships (15:149). Different interviewees underline the importance of bringing people together, like civil servants from Renkum (15:79, 15:140) and the owner of 'Het Groene Bedrijf' in Renkum (15:36, 15:54). In Lingewaard the sustainability coordinator was introduced to help bring actors together (15:35). The municipality also shouldn't forget to make use of connections with actors they already have. The entrepreneurs association VERON for example is well prepared to share a message the municipal government has to their members (16:213). The municipality could use organisations like VERON and like the residents association 'Fluitersmaat' as a shortcut to entrepreneurs and residents (16:159).

Persuasion

In Renkum, some actors offered an interesting insight in persuasion power to motivate individuals

to act. Civil servants in Renkum believe that people don't tend to listen when a governmental body tries to stimulate or motivate them to act. But when a neighbour puts solar panels on his roof and explains his motivations to his neighbour, the neighbour will be more inclined to buy solar panels as well (15:80). The representative for the local nature organisation 'Vereniging van Vijf Dorpen' for example convinced two neighbours to place solar panels, after he bought his solar panels (15:201). The residents association 'Fluitersmaat' organised an information meeting when one of the residents bought solar panels (15:209). This is helpful as the practicalities are complicated and because there are numerous different models and options available. Having someone explain how and what choices were made, can be very helpful and stimulating (15:210). A civil servant in Renkum talks about doing something similar, where the municipal organisation organises an evening where businesses are invited to explain the options and individuals are invited to share their experiences. Civil servants in Renkum are thinking about a system where inhabitants who have solar panels, are asked to go door-to-door in a neighbourhood to try to convince others to do the same (15:80).

5.2.3 Subsidy

In the frames paragraph it became clear that different actors see financial motivation as an important motivation for actors to change behaviour. A governmental policy instrument that speaks on this financial motivation is giving subsidies. Renkum and Lingewaard are mainly involved in passing on subsidies from other governmental bodies. The province of Gelderland, where Renkum and Lingewaard are located has large subsidy funds to help finance the insulation of houses. The municipalities of Renkum and Lingewaard can call on these subsidies for their inhabitants (16:198). The municipality takes care of informing inhabitants on the possibility of these and other subsidies (15:74, 15:136). This function as pass-through for subsidies, is also acknowledged by multiple stakeholders from the civil society (15:219, 16:47).

Whether or not giving out subsidies is useful or not for a municipality, is contested by the different stakeholders. The local energy cooperation for example thinks that financial motivation is necessary for people to act, but the interviewee from the local nature organisation thinks it is not useful, as people in Renkum are wealthy enough to afford measures without subsidies (16:70, 15:198). The interviewee from the residents association adds that it is not reasonable to expect subsidies from a local government in this financial hard time for municipalities (15:221). The municipal government should therefore focus on passing through information on subsidies given out by higher bodies of government, according tot the interviewee from the residents association (15:225).

5.2.4 Rules and regulations

According to a civil servant interviewed at Lingewaard, motivating through rules and regulations might be a good option. On certain rules an active form of monitoring might be useful to point out to actors that they are exceeding thresholds and should change their behaviour or invest in more sustainable equipment. Throughout the interviews several possible types of regulation changes were suggested. For example making stricter parking regulations in order to simulate bike use (15:197), or setting an energy efficiency standard to which new buildings should conform

(16:172). None of the suggestions have been applied in Renkum or Lingewaard though and compared to other policy instruments, rules and regulation were not mentioned often.

5.3 Facilitation

Municipalities like Lingewaard and Renkum are relatively small and therefore only have small departments on climate change mitigation policy. This means that it is necessary to find a way to do as much as possible with little resources. In Lingewaard and Renkum a lot of stakeholders acknowledge that their municipality has a small budget and not a lot of expertise on climate change mitigation. A small municipality has less civil servants in general than a bigger municipality, but also the bigger municipalities often has more and better quality civil servants (15:47, 15:52, 15:96, 15:224). It is to be expected that the budget for climate change is small, especially as the municipal government is not doing well financially in general (16:88). Because of this, the municipal government doesn't have enough resources to start and fund initiatives. Instead the available resources are used to help initiatives started by others. A civil servant explained it as follows: "We don't develop ourselves, we help to make developments possible" (16:104).

In Renkum the interviewed civil servants talk about the municipality as a facilitator for the business sector and for knowledge institutes. The municipality is not a controlling institute, but focussed on helping others where possible (15:155). The owner of 'het Groene Bedrijf' acknowledges this receding government. To him it is an excuse to reduce costs. He sees it as the government pushing tasks to other actors to reduce their own costs (15:12). Focusing on facilitation means that there is still action needed by civil servants according to one of the interviewed civil servants from Renkum. No 'wait and see' approach, but going outside and sharing knowledge and bringing together actor (15:133). Try to bring actors in contact with each other, and give them the opportunity to discuss ideas and make propositions (15:160).

To put more concretely what facilitating entails. The entrepreneurs in glasshouse area Bergerden were considering using geothermal energy as a source of heat for their glasshouses. Facilitation here meant that the municipal government funded the research into whether or not this is possible (3:22, 16:223). Next to facilitation through funding, sharing knowledge and information is another possible way of facilitation. Through helping a range of different initiatives, the municipal government can spread lessons learned from one initiative to another (15:228). Facilitation is also possible through removing obstacles for initiatives. When a group of inhabitants in Lingewaard had plans to build a bio-digester, the municipal organisation stimulated this through making sure all the right permits and licenses were in place (16:199). The municipality of Renkum has ambitions to help initiatives in a similar way. In their document on environmental policy they state the action to research whether or not there are municipal rules that hinder sustainable initiatives (3:19).

Problems in facilitation

The interviewees from VERON have experience with the municipal organisation of Lingewaard and their facilitation function. According to them the municipality sometimes is asked to participate

and in other cases the municipality “imposes” itself to facilitate (16:121). And when the municipality tries to facilitate, it is not always productive, in their experience (16:137). The civil servants are present at meetings, but don’t add value to the discussions (16:144). The interviewees from VERON advise the municipal organisation to try to do more than only listen. Try to bring capacity, expertise and knowledge to the table (16:211). Active citizens in Renkum face similar problems. The person interviewed from ‘de Vereniging van Vijf Dorpen’ sees himself as an active citizen. He tries to use his knowledge as much as possible to help the municipal organisation (15:237). In his experience the communication with the civil servants is troublesome (15:181, 15:183). When he tries to help and gives comments or tips, sometimes he feels heard and actions are taken, but other times he gets no response at all on the comments he has given (15:185). It is communication in this way that makes him see the municipality of Renkum as an introverted and self-centered institute, which is represented symbolically by the fact that the town hall is oriented with its back towards the village (15:188). Even though he doesn’t always feels appreciated, this active citizen stays committed to helping the municipality, but it would be a waste if others stop because of poor communication with the local government (15:190).

The experiences the different stakeholders have with communication with civil servants are not all bad. It depends very much what civil servant you talk to, according to the representative for ‘de Vereniging van Vijf dorpen’ (15:184). The owner of the green ICT company ‘het Groene Bedrijf’ explains it in a similar way. According to him some civil servants are enterprising and others are not (15:37). These enterprising civil servants are more communicative and take initiative in communications. As the budget and manpower is smaller and civil servants have less expertise in municipalities like Lingewaard and Renkum, they have a hard time to facilitate in a way that is satisfying for the stakeholders involved (16:211).

Regional cooperation

The interviewees also had a clear idea of what would be a good way to make up for a lack of budget in smaller municipalities. In neighbouring municipalities the municipal organisation might have more expertise and more resources in climate change mitigation policy (15:56, 15:57). Through collaboration with other municipalities it is possible to do what isn’t possible as a small municipality (15:94). It is also useful to learn best practices from others instead of having to reinvent the wheel (16:69). In the KliKER-project small municipalities have the opportunity to tell each other about these best practices (15:67).

5.4 Local catalyst

The two civil servants in Lingewaard both praise their municipal executive board member, a member of the Dutch left-wing GroenLinks party, who is responsible for climate change mitigation policy (16:18, 16:207). He is actively putting climate change on the political agenda and puts a good effort for change in (16:59). This qualifies the municipal executive board member as a local catalyst (Hoppe & Coenen, 2011a). Setting climate change on the agenda in the municipal council is necessary for goals to be set on climate change mitigation. Without goals, there is no guaranteed commitment on the subject. A civil servant in Renkum explained the importance of this. According to him with SMART specified goals, the policy gets more energy and commitment

from the municipal council (15:124). When time and resources are needed the municipal council has the final say. Already having specific goals can help to get more commitment (16:101). In Lingewaard, having a municipal executive board member has contributed to having a sustainability coordinator, who is working on sustainability full time (16:86).

In Renkum, not the current municipal executive board member on sustainability and climate change is a local catalyst, but his predecessor. He was very productive and has put sustainability on the agenda in Renkum (15:162). The current municipal executive board member does have a lot of plans, but not a lot of action (15:163, 15:169).

6 Conclusions and discussion

6.1 Conclusion

In order to answer the main research question first the sub questions are answered. The first sub question was: *What are the views on local climate mitigation policy of the municipal governments and societal stakeholders in Lingewaard and Renkum?*. This is closely related to the second sub question: *What are the similarities and differences between these views?*. The views on local climate change mitigation policy and the similarities and differences between these views are described below. Important factors in views on climate change mitigation were defined in the research question section as the identification of focus areas, the view on the role of the municipality in climate mitigation policy and the view on the own role in climate mitigation policy. As actors turned out to have limited knowledge on climate change mitigation, the focus areas the actors identified were not seen as relevant. The views on the role of municipality are described below as well as the connection between the role of the government and the role of the actors, being facilitation of initiatives.

All interviewed stakeholders agree that it is important for the municipal organisation to set a good example in climate change mitigation. Where the municipal organisations in Renkum and Lingewaard are actively trying to set a good example, this is not coming across to all stakeholders however. The municipal organisations are actively trying to set a good example by reducing greenhouse gas emissions in their organisations. The stakeholders are not aware of the actions the municipal organisation takes however and do notice places where the municipal organisation could take action, but doesn't. The majority of the interviewed stakeholders therefore don't see the example the municipality tries to set.

Influencing actor networks happens through creating awareness and sharing knowledge on green alternatives according to the stakeholders. In this process the municipal organisation can add value by connecting actors. In a lot of aspects the municipal organisation is the centre of a network. The municipal organisation can make use of this by introducing sustainability to the actors they speak to and connecting actors to talk about reducing greenhouse gas emissions. The different actors agree that the municipal government should motivate actors through communication. Motivation through subsidies and through rules and regulation are not popular amongst stakeholders and is only mentioned one or two times. Stakeholders mainly identified a role for municipalities in informing stakeholders on available subsidies provided by other governmental bodies.

Stakeholders are aware that small municipalities only have limited resources. They understand that when the municipal government wants to facilitate initiatives, not all initiatives can be facilitated. The department concerned with climate change mitigation is often small and thus has a small amount of labour and expertise available to invest, compared to bigger municipalities and higher governmental bodies. Some stakeholders are seeing a municipal organisation that tries to

be involved in every initiative, but which is not capable to add value to these initiatives through a lack of resources and expertise.

The third sub question is: *What are possible incongruences between the different views held by stakeholders, and which could pose problems or bottlenecks in the collaboration process for formulating climate mitigation policy?* The possible incongruences are described below.

From the dissimilarities identified in sub question two, problems and bottlenecks can be identified. The example the municipal government tries to set in reducing greenhouse gas emissions, does not come across to all stakeholders. Here an information dissimilarity occurs between the municipal government and the different stakeholders. Stakeholders don't know what effort the municipal organisation is making to reduce greenhouse gas emissions. The municipal government can have a very green municipal organisation, but as long it doesn't communicate this or propagate this, other stakeholders might not be aware of this. This might make the municipal government less believable when promoting greenhouse gas emission reduction.

Another incongruence occurs in the process from policy to implementation of policy. Climate change mitigation policy works through a range of different policy fields and is thus dependent on a range of different civil servants. This can cause problems when some civil servants are less inclined with climate change mitigation or aren't stimulating mitigation measures as much as they could. These civil servants not stimulating climate change mitigation makes the policy less effective than it could have been. The network of the civil servants and the meetings and contact they have to stakeholders, are what the municipal organisation can add value into. Not using the entire available network is a bottleneck for the climate change mitigation policy.

The municipalities of Lingewaard and Renkum are only small and thus have limited resources and expertise. On climate change mitigation there are not a lot of funds available. Through the 'Energetic Society' inhabitants are expected to be more reactive and creative. In the interviews it has become apparent that the municipalities are actively anticipating on this change by focusing policy on facilitation of green initiatives. In Lingewaard initiative is shown through Lingewaard Energie and in the glasshouse area Bergerden. In Renkum the initiative has not been shown yet. Facilitation is appreciated, but is not always as useful as actors would hope it to be.

Now all the sub questions are answered, the main research question can be answered. *What problems and opportunities occur in climate mitigation policy in Lingewaard and Renkum due to possible differences in views held by local stakeholders on the roles to be played in local policies?*

A big opportunity for Lingewaard and Renkum lies in communication. The municipalities have numerous connections to and relationships with stakeholders in their municipality and they could make more use of this. Reduction of greenhouse gas emissions should be integral in policy and put on the agenda in meetings with stakeholders when possible.

Another problem with communication lies in information dissimilarity on the actions of the municipal organisation to become more sustainable. Clear communication about what the municipal government does or doesn't do in order to reduce greenhouse gas emissions might make other actors more understanding and willing to become more sustainable themselves.

Facilitation of initiatives is an important instrument in climate change mitigation policy for municipalities. Stakeholders agree that facilitation should be a task fulfilled by municipalities. The execution of the policy is not to the satisfaction of stakeholders however. The municipal organisation should contribute more to the initiatives they facilitate. This means either selecting initiatives on which to focus energy or making more resources and expertise available.

6.2 Discussion

The frames as described by De Bruijn et al. (2012) are still used by stakeholders in Lingewaard and Renkum. There is no clear structure in certain types of actors that use or favour certain frames. Most frames are only mentioned by one or two actors. The exception is the frame that actors should be motivated through showing them the financial advantages can be to reducing greenhouse gas emissions. Actors from both municipal organisations as well as from multiple other stakeholders mention this. Motivating through explaining the financial upsides doesn't comply with the criteria for framing a message, as described by De Bruijn et al. (2012). A new frame that does comply is the frame that responsibility for creating a local a sustainable energy source and become less dependable on big energy companies and fossil fuels. This latter frame has not proved to be very popular yet however in the interviews. It is not clear if this might be a successful new frame or not.

The local catalyst is described by Hoppe and Coenen (2011a) as "an active public official [...] who safeguards the place of sustainable development on the local political and policy agenda.". Having a local catalyst would be pre-requisite for attaining frontrunner status in climate change mitigation. The interviews in this research underscribe that conclusion. In Lingewaard the municipal executive board member responsible for climate change mitigation can be seen as a local catalyst. He has played a key role in getting the sustainability policy of the ground in Lingewaard. In Renkum sustainability policy was initiated in a period when the municipal executive board member for climate policy was openly in favour of sustainable development as well.

Hoppe (2013) described the municipal role in climate change mitigation policy as initiator, motivator or facilitator. Horizontal control and network control have become an alternative for traditional hierarchical control. In the interviews it has become clear that the roles described by Hoppe are all present in the current climate change mitigation policy in Lingewaard and Renkum. The focus here is on facilitation and motivation of actors and initiatives. The municipal organisation are also taking initiatives, but the focus is on motivation and facilitation.

6.3 Limitations

The results only apply to the two cases researched and can't be generalised towards other municipalities as it is a case study. To check whether or not this applies for similar municipalities as well, research in more similar municipalities is needed. The research is also limited by the amount of stakeholders interviewed in Lingewaard and Renkum. As a stakeholders analysis wasn't done and only a small and selective amount of stakeholders were interviewed. This might give a selection bias which has influenced the results. Even though I think the stakeholders interviewed give a good overview of the opinions in Lingewaard and Renkum, other stakeholders that were not interviewed could have an entirely different view on the role of the municipal organisation in climate change mitigation policy.

In this research there are a couple of things that might have been done better. After the research proposal was approved, making the interview questions and doing the interviews was directly started. Later however, after interviews were all done, it was found that the theoretical framework and methodology were not yet sufficient. More literature study was done to create a better theoretical framework, which was more usable for analysing the results. It would have been better though if this would have been done before the interview questions were made, as these could have been more specific. They were still very useful now, but if something was not mentioned it, no conclusion could be drawn. It could have been possible that with a more specific and articulated question they would have mentioned it.

Another thing that could have been done better was starting with the analysis after the first interview was done instead of starting after the last interview was done. This might have given useful insights early on that could be used or checked in interviews that were done later.

6.4 Recommendations for further research

A recurring theme in the interviews was the lack of expertise and resources in the municipal organisations of Lingewaard and Renkum. A municipal organisation of a small municipality only has limited resources and problems like the global climate problem require more specialist knowledge. The knowledge required is also very similar in different municipalities. Collaboration between municipalities or even increasing the scale of the climate departments by making one single department for a number of municipalities might be more effective than a number of small departments. Researching the possibilities and effectiveness is especially interesting in the Netherlands as decreasing the amount of municipalities and thus merging smaller municipalities is currently an issue on the political agenda.

Communication turned out to be a pain point for the municipal organisations. In Lingewaard and Renkum it was problematic to create the image that they are truly putting a solid effort in reducing greenhouse gas emissions. It might be interesting to research whether or not other municipalities face the same problems and what best practices are to prohibit this from happening.

Further research is also interesting on frames in climate change mitigation policy. Creating awareness and influencing actors to change is an important part of climate change mitigation. By doing more research the best or a better way of framing climate change mitigation might be found. This could be achieved by doing research in more municipalities, possibly where more experience and expertise with climate change mitigation is present and specifically focussing the research on actor motivations.

7 References

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