The influence of the sustainability discourse on the Dutch and Belgian energy transitions

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Summary

This thesis examines the influence of the sustainability discourse on the Dutch and Belgian energy transitions. These two countries are still quite reliant on fossil fuels, in spite of international policies that should reduce the fossil fuel dependency. Almost everyone has their opinion on the need of sustainable policies and measures, which makes the energy transition a hot topic in both countries. Since the energy transitions will have to be executed through many actors of which a lot are societal actors, it can be expected that the perception that people have about sustainability is going to affect their behavior. This thesis examines the sustainability discourse through the following research question: '*To what extent are the energy transitions in the Netherlands and Belgium influenced by the current sustainability discourse*?'. In order to examine this influence, interviews are held with Dutch and Belgian actors that will have to participate in the energy transitions. The research method that is being used is a discourse analysis. This method proved to be able to discover the several dimensions of the sustainability discourse which is dominant in the Netherlands and Belgium. It appeared that the Dutch and Belgian sustainability discourses have significantly changed over time. The need of an energy transition has been described in the literature for some time. However, it appeared in both countries that the dominant sustainability discourse not only affects the energy transition, it actually shapes the energy transition. The content of discussions, the set targets, which actors are involved and the way actors interact are all affected by the sustainability discourse. The energy markets and energy projects are currently changing and adapting to trends that arise from the sustainability discourse. This research clearly has proven the relation between the sustainability discourse and the energy transition. Other researches could use the findings of this thesis to work on, on the subject, or to compare the findings of this thesis with the sustainability discourse in a different country.

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Chapter 1. Introduction

1.1 General introduction

The influence of humanity on the environment has been examined since the 1990's. Coalitions such as the Intergovernmental Panel on Climate Change publish reports that address climate change and its driving factors. The driving factors of climate change appeared to be caused by the industrialization and its emission of greenhouse gasses (GHG's). If humanity does not quickly decrease its (GHG) emissions, the consequences of global warming will be enormous (IPCC, 2018). Although most of the (polluting) countries are obliged to act on their agreements which aim to mitigate climate change, it is still uncertain whether global warming will significantly be limited. This is quite particular in itself, since climate change negatively influence the food production, home security and the risk of natural disasters. Since the consequences of climate change have been familiar for a few decades and the world has not taken drastic measures yet, the bottleneck should be recognized in the executing task of environmental measures. Almost all countries, including the Netherlands and Belgium, are obliged to reduce their negative effects on the environment and to stimulate sustainability in their societies. However, years of economic growth, prosperity and an unlimited usage of fossil fuels has led to fossil fuel based economies and a certain mindset that hinders sustainable policy (Seto et al., 2006; Genus, 2014; Meijden & Smulders, 2017). The mindset that people have about a certain phenomenon, such as sustainability, is heavily influenced by the current discourse about that phenomenon. The sustainability discourse is the result of the dominant way people think, talk and write about this concept, people hereby create the definition of this concept what they regard as the truth. The sustainability discourse that was dominant the last decades did not lead to sustainable economies and societies. Now that all countries have ratified their environmental measures and are at the brink of the energy transition, it will become clear whether the sustainability discourse has changed enough for economies and societies to become more sustainable. The Netherlands and Belgium are both countries that are characterized with a high GDP and prosperity, nevertheless both countries struggle with implementing sustainable policies and measures. The important question is why Belgium and the Netherlands have this many problems with achieving more sustainable energy. The research aim of this thesis focusses on the Dutch and Belgian energy transitions and aims to recognize and examine the influence of the sustainability discourse on the energy transitions. To be able to study these elements the following research question has been formulated: "*To what extent are the energy transitions in the Netherlands and Belgium influenced by the current sustainability discourse*?"

1.2 Scientific relevance

Led by the research of the United Nations, the academic world has embraced the need for the shift from fossil fuels to renewable energy sources. Articles and publications about the influence of GHG on the atmosphere (IPCC, 1996; Srinivasan, 2008), the need to mitigate global warming (European Commission, 2010; IPCC, 2018), and how the energy transition should be executed (UNFCCC, 2015) have not led to satisfying progress. In fact, the global production of renewable energy will have to be scaled up at least six times in order to meet the goals set out in de Paris Agreement (International Renewable Energy Agency, 2018). This thesis is of great scientific relevance because of the research that intertwines the literature about the energy transition with empirical data of the execution of the Dutch and Belgian energy transitions. Plenty of articles and international reports have been published about the need for an energy transition, but not many articles discuss the 'executing phase' of the energy transition. This thesis will write about the implementation of the Dutch and Belgian energy transition and the influence of the dominant discourse for sustainability. Both the Netherlands and Belgium are struggling to implement measures for their energy transitions. This thesis will examine the implementation of these measures closely, which will provide a better understanding of the ongoing discussions and developments regarding the Dutch and Belgian energy transitions. Not many researchers have connected the sustainability discourse with the energy transition, while they are strongly connected. This thesis can show the positive/negative/constructive/etc. influence that the sustainability discourse exerts on the Dutch and Belgian energy transitions. Recognizing the influence of different sustainability discourses on countries' energy transitions will benefit other countries by recognizing opportunities and vulnerabilities for their respective energy transitions.

1.3 Societal relevance

How the Dutch and Belgian energy transitions will be executed, and what kind of influence the sustainability discourse will exert on the energy transitions will significantly impact the Dutch and Belgian societies. First of all, the Dutch and Belgian societies are very reliant on energy. So in order to preserve the current compositions and welfare both countries need to be assured of sufficient energy. Because of the expected economic growth, the energy demand will most likely increase even faster for both countries. Both governments have to start their energy transitions on time, implementing the transitions too late could lead to energy shortages which would significantly hinder the economies and social lives of Dutch and Belgian citizens. Simultaneously, it can be expected that the Dutch and Belgian societies will be affected by the energy transitions. In order to accomplish

their national and European targets, significant changes have to be made in the energy sector of both countries. Both the Dutch and Belgian government mention that they will have to execute emission reduction projects and renewable energy projects, which will affect both societies (Federale overheid, 2018; Rijksoverheid, 2016). One can imagine that the installation of renewable energy sources, such as wind mills and solar panels, will be clearly noticeable in the built environment. At the same time, the more polluting segments of the energy sector will have to be handled. Another aspect regarding the societal relevance is the fact that the sustainability discourse could fuel changes. Verbong & Loorbach (2012) noticed that sustainable topics were discussed increasingly more often in the Netherlands, even before the Dutch government decided to act on sustainability. The sustainability discourse has the power to change societal discussions such as car-use, the gas production in Groningen, polluting energy sources and lifestyle choices. These topics are being discussed in both countries and leads to action by people that act on it.

Chapter 2. Theoretical framework

2.1 Energy Transition

The energy transition cannot be seen as an unambiguous concept. Various transition have taken place over the course of time in many regions over the world. All transitions have been characterized with different characteristics and objectives, for example: nuclear phase out, renewables development, ban on shale gas and shale oil exploration and a ban on diesel cars (Lewiner, 2018). By the versality of the concept of the energy transition, the view of people on the concept are very diverse. This thesis is in line with the definition and purpose that Lewiner (2018) has given the energy transition, which focusses on the unique objective of the energy transition; it should lead to a reduction of GHG emissions in order to effectively mitigate climate change. The publication of the Paris Agreement in 2015 has strengthened this definition in the scientific world. It is striking that a lot of papers about local and national energy transitions have been published in the last few years. These papers discuss the need for a transition, the transition that is already going on and the process and facilitation of these transitions. Around the time that the concept of sustainability became noticeable in the scientific world and society, the idea of an energy transition came into being. Papers by Williams (1986) and Leach (1992) discussed the speed of the process of the energy transition that was executed as well as the challenges of new technologies that would have to steer new energy systems. Scientists mostly saw the energy transition as a shift that needed to be made in the future. The focus of the definition of the energy transition shifted more towards a reduction of fossil fuels and an increase of renewable energy over the last decades. Although the energy transition has not had a great start, (policy) documents and papers have written about the effects of climate change and the need for an energy transition. The European Commission (2010) called the energy transition one of the greatest tests that humanity will face, since it would take decades to steer the energy systems towards renewable energy based systems. They simultaneously mentioned that the progress of the last few decades have not been enough, as the existing energy transition strategy seems inadequate for long-term goals. Although the scientific world has stressed the need for an energy transition for a few decades, governments and international coalitions have not succeeded to develop constructive energy systems that made us less dependent on fossil fuels. Very important factors for this failure have been our economy, consumption patterns, regulations and infrastructure that are deeply entrenched in our energy systems (Verbong & Loorbach, 2012). This entanglement of the energy system within society is very common, and is referred to as ‘lock-in’.

These situations severely hinder the execution of the energy transition and are experienced as a "persistent problem" through the governance perspective (Rotmans, Kemp & Van Asselt, 2001).

Transitions studies have shaped the definition of transitions, Verbong & Loorbach (2012) worded it as follow: "In the field of transition studies, transitions refer to large-scale transformations within society or important subsystems during which the structure of the societal system fundamentally changes." Transitions can be recognized by main characteristics (Grin, Rotmans and Schot, 2010).

• Transitions are co-evolutionary processes that require multiple changes in socio-technical configurations.
• Transitions are multi-actor processes, involving a large variety of social groups.
• Transitions are radical shifts (in scope) from one configuration to another.
• Transitions are long-term processes on a macro-level.

It is widely accepted that transitions are complex and socio-technical processes. Geels (2002) mentioned the examples of the demographic transition, the shift of an industrial to a service economy and the shift from horse and carriage to motorized vehicles. An energy transition includes the shift from fossil fuels towards renewable energy. This transition can be recognized by the characteristics that Grin, Rotmans & Schot (2010) composed, and could be compared with the examples mentioned by Geels (2002). Rotmans (1994) adds to the definition of transition that the shift is caused by the disturbance of a dynamic equilibrium, which leads to a process of changes that will lead to a new stable dynamic equilibrium. It is argued that transitions in the energy sector inevitably will take place because of innovation. Emerging alternatives, improved technologies and increasing landscape pressures will change the energy sector in the long term (Verbong & Loorbach, 2012). According to transition governance it is impossible to predict the outcome of energy transitions, at most the transition can be steered in terms of direction and speed.

2.2 Governing the transition

The complexity of energy systems severely hinder the execution of the energy transition, these complex systems are perceived as 'persistent problems' (Rotmans et al., 2001). These persistent problems are not easily solved because of the locked-in systems, a variety of actors with diverse interests involved, not to mention that they are challenging to interpret (Dirven, Rotmans and Verkaik, 2002). Since entire societies are connected and built to be geared on the energy systems,

executing an energy transition is characterized by an enormous amount of actions and measures. The challenge of the energy transition is a relative new challenge for most countries, the implementation of energy transitions have just started. According to Loorbach (2007) the major challenge of transition management is to transform abstract steering principles into a framework that could be managed. Which actors and instruments should be involved could be distract from the framework. Verbong and Loorbach (2012) shared their view on the transition: "*The transition arena is meant to stimulate the formation of new coalitions, partnerships and networks that together create a new way of thinking"*. The transition should be governed in a way that new formations and partnerships could arise. These new partnerships and ways of thinking should be able to put pressure on the political and market arena (Verbong & Loorbach, 2012). Formulating a framework for the energy transition would offer the platform for this, plus the framework could clarify the transition. Even though there is little experience with this and transition management, engaging society into transition debates leads to the emergence of new discourses. Cooperation between actors develops a systemic understanding of the complex problem and enables solution-oriented measures. The provided framework should help facilitate and stimulate the implementation of the energy transition. This description of an energy transition that offers new opportunities, coalitions and ideas could be recognized as a steering strategy. The Dutch government has to achieve certain sustainability targets, the government can use different strategies to achieve them. Traditionally three strategies are practiced: hierarchic steering, network steering and self-steering (Cörvers, 2001). Hierarchic steering is characterized by one leading actor, which sets the policy and rules for the other actors. Network steering is characterized by collaboration between actors, the actors can negotiate freely and policy is created by interactive collaborations. Self-steering is characterized by the absence of a strong leading actor that coordinated the discussions and policy, this can be seen as a bottom-up process. These steering strategies significantly differ from each other and their effectiveness in achieving their goals differs as well (Duyn, Runhaar, Agterbosch & Tieleman, 2006). Transition management literature advocates for a steering strategy that is characterized by collaboration and the creation of new ideas, coalitions and techniques. Because of this, network steering and self-steering may be more suitable for the energy transition than hierarchic steering.

2.3 Discourse

Dominant discourses determine and shape the characteristics of our society. Although it might be difficult to understand the influence of a discourse, the discourse most certainly influences society. Before the sustainability discourse can be understood, the concept of discourse should be elaborated in the framework. Discourses apply on all concepts and trends in society, similarly for sustainability. A discourse is the dominant thought or image people have when they think about a certain concept. This image of reality or the self-evidence of information in processes and organizations is caused by the collection of ideas, concepts and categories of groups of people (Hajer, 2006). All the actors within an organization or process create this reality and perception and act on this (van den Berg, 2004). This shared view and thoughts on information is a description of the concept of a discourse. The concept of discourse is often linked to theories of power and state. The current meaning and position of the concept of discourse in the academic world is largely derived from the work of the French philosopher Michel Foucault. His esteemed description of the concept of discourse is as follow: a set of ideas and practices that categorizes our ways of doing things with regard to certain phenomena (Foucault, 1971). The German sociologist Habermas sees a discourse as a tool to clarify thoughts, he describes a discourse as: "a tool to clarify controversial prevalence regarding certain topics''. The definition of Habermas differs from the common definition that Foucault provided. The interpretation of the definition of Hajer is more in line with the philosophy of Foucault. In the work of Laclau & Mouffe the researchers work with an abstract approach of a discourse, by stating that everything is a discourse (mentioned in Jørgensen & Phillips, 2002). Although this perception of the concept of discourse might not be entirely wrong, it is not common to list everything as a separate discourse. Through this abstract approach the researchers claim that acquired knowledge about processes and the world are not objective but a product of the labels and categorizations that we give them. The original definition that Foucault provided focused on the effect of discourses on processes and policy, the definition and description that Foucault has given the concept of discourse is the definition that is used and meant in this thesis. Foucault was very critical on the work of politicians in his country, and emphasized the influence of discourses on decision making. Beunen & Duineveld (2010) argue that discourses influence organizations, policy making and planning. A dominant discourse could give structure and provide a direction for policy (Beunen & Duineveld, 2010). Sharp & Richardson (2001) affirm this and empower this by stating that discourses could even exercise an invincible power on actors when knowledge is institutionalized. By the philosophical approach of Sharp and Richardson (2001), discourses could be seen as a tool of power. Discourses

could be steered and manipulated to exercise a certain power over the people, even though this perception on discourses is not usual, this view emphasizes the importance of discourses on society.

When one explicit set of ideas and practices that categorizes our ways of doing with regard to certain phenomena is institutionalized or translated into a concrete policy, only then can be talked about a dominant discourse (Foucault, 1971; Hajer, 2006). These discourse coalitions are formed by various actors who all contribute to the dominant discourse. This thesis examines the Dutch and Belgian energy transitions, and the influence of the sustainability discourse on these transitions. In order to successfully implement the transitions, collaborations between all members of society will have to be formed, which in turn is subject to the sustainability discourses. The degree of collaboration will influence the discussion of the energy transition which in turn will influence the implementation of the energy transition, which is further explained in paragraph 2.6.

2.4 Sustainability

In the last decades of the 20th century the concept of sustainability became increasingly larger in the academic world, since the negative influence of humanity on earth's climate became clearer to see. The problems that come along with climate change were discussed at the first World Climate Conference in 1979. This increased attention on the effects of humanity on earth's climate resulted in the publication of 'Our common future' by the World Commission on Environment and Development (WCED). The report stated that the main global environmental problems were the result of poverty in one part of the world and unsustainable consumption and production in the other part of the world (Brundtland, 1987). The Intergovernmental Panel on Climate Change (IPCC) reports (1996) and the paper of Patwardhan et al. (2007) discuss the consequences of an unsustainable world. Climate change will lead to environmental problems that will significantly harm humanity, droughts, floods, famines, rising sea levels and a disturbance of all ecological equilibria on earth (Patwardhan et al., 2007). In order to mitigate the environmental problems, a certain type of behavior was required, the concept of sustainability is in line with this behavior. The definition that the WCED created for sustainability in 1987 is the definition that the academic world still acknowledges as the most complete definition of all. This definition is as follow: development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987). In order to become sustainable, policies have to be formulated that can steer societies and its economies.

International and national policies are characterized by a dichotomy in climate policy strategies: strategies to prevent climate change (mitigation policy) and strategies to limit the consequences (adaptation policy) (Klostermann, Biesbroek & Gupta, 2009; Paehlke, 2014). Within adaptation policy, two distinctive approaches that are recognized and have been discussed in academic literature are: the dedicated approach and the mainstreaming approach. In the dedicated approach climate adaptation will be established as a new policy domain (Moser and Ekstrom 2010, Grothmann and Patt 2005, Klein et al. 1999, Risbey et al. 1999). In the mainstreaming approach climate adaptation will be integrated in existing policy domains (Kok and De Coninck 2007, Smit and Wandel 2006, Huq and Reid 2004, Huq et al. 2003). The policy strategy that applies for countries that are planning and executing their energy transitions is obviously mitigation policy, since they act on reducing climate change.

2.5 External factor

Regardless of the influence of the sustainability discourse on the energy transitions, many factors will have its influence on the energy transitions. Social trends, the country's prosperity and regional trends can all effect the energy transition. Even when the sustainability discourse has led to demands from society for more renewable energy projects, there will always be a part of society that does not agree. The Dutch have had problems in finding suitable locations for renewable energy problems for decades, which resulted in local and political discussions (Beaujean, 2001; Bosch & van Rijn, 2008). This was caused by the fact that not everyone was convinced of the need of renewable energy. This is why the Netherlands and Belgium should keep in mind that the societal and administrative support for generating renewable energy will not always be present (Wolsink, 2000). As long as there will be people that do not share the same feeling for the energy transitions as the actors that will have to implement the transitions, collisions between opposing sides will occur.

Renewable energy projects have been plagued with opposition, one of the major reasons have been the phenomenon Not In My BackYard (NIMBY). People that act through this thought are not necessarily against renewable energy, for example wind turbines, they do not want the project executed in their close surroundings. A striking definition for NIMBY is as follow: "People who share a positive attitude with resistance due to the expected personal costs and benefits" (Wolsink 2000, 53). Other articles mention that people do not want these energy projects around their houses and stress the importance of the visibility of the energy projects on the opinion of civilians.

2.6 Conceptual model

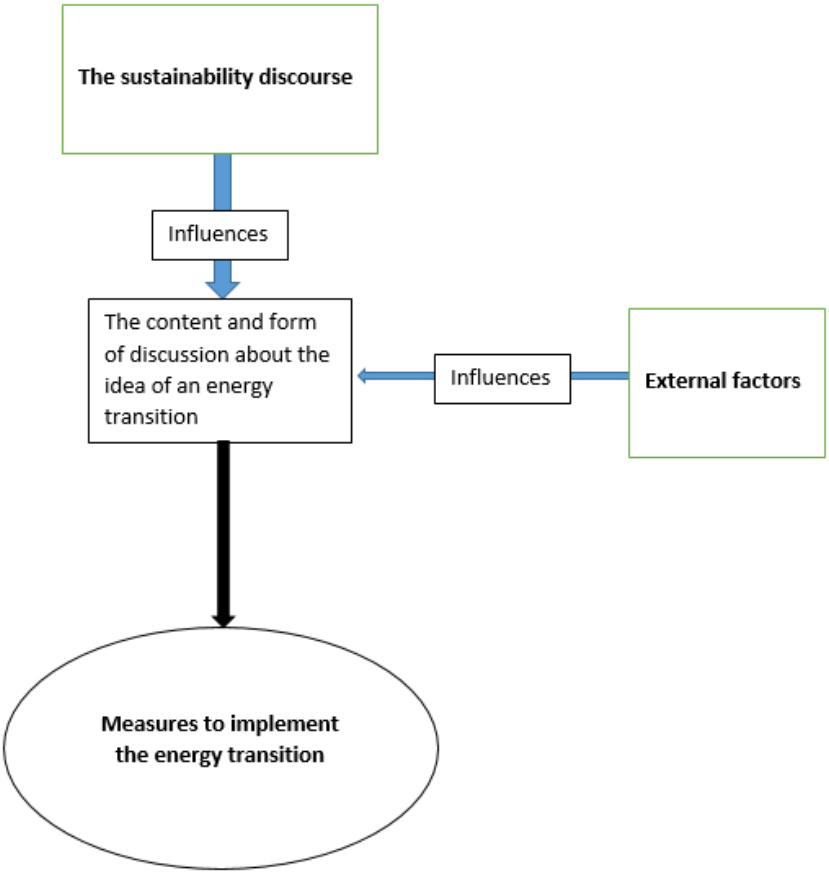

Figure 1: conceptual model, source: author.

The most important concepts of this thesis are included in the conceptual model which can be seen in figure 1. The first and major variable which influences the implementation of the energy transition is the sustainability discourse. The way people think, talk, discuss and act on their perception of sustainability immensely influences their willingness to act on the energy transition and how to do so. As previously mentioned in paragraph 2.3, the discourse of a concept, in this case sustainability, could significantly steer people towards a certain consensus and/or be used as a tool to influence people for corporate/governmental interests. External factors obviously could also influence the implementation of the energy transition. Since the discourse of sustainability and the effects of external factors influence the content and discussion about the energy transition, these variables indirectly determine the implementation of the energy transition.

Chapter 3. Methodology

3.1 Research question and sub questions

The research question in this thesis is: "*To what extent are the energy transitions in the Netherlands and Belgium influenced by the current sustainability discourse*?"

To be able to give a complete answer on the research question, four sub questions have been formulated:

1. In which way has the international sustainability discourse developed over time?
2. In which way has the Dutch and Belgium sustainability discourse developed over the 2008-2018 time period?
3. How are the Dutch and Belgian energy-markets characterized and what are the ongoing developments that can be recognized?
4. How are the Dutch and Belgian energy projects that contribute to the energy transitions facilitated?

1. The first sub question will examine the international sustainability discourse, which led to sustainability discourses on the national level. This overarching international discourse shaped the national discourses, examining this international discourse will provide a better understanding of the national discourses. The sub question is as follows: *In which way has the international sustainability discourse developed over time?*

This sub question will have to be answered through an extensive literature study. Reading and analyzing scientific papers, articles and reports will be required to correctly describe the discourse.

2. The second sub question will have to examine the sustainability discourse in both countries. To be able to recognize the influence of the sustainability discourse on the energy transitions, the sustainability discourses themselves need to be recognized and understood. The sub question is as follows: "*In which way has the sustainability discourse developed in the Netherlands and Belgium*?"

This sub question will primarily be answered through the interviews, and to some degree through a literature study. To fully grasp the Dutch and Belgian sustainability discourses, both written and

spoken texts will need to be examined. The interviews will be essential to determine the current dominant discourses. Not only the words and their meaning, but also the feeling and value the respondents attach to sustainability characterize the sustainability discourse.

3. The third sub question will have to describe the energy markets in the Netherlands and in Belgium. Since the energy transitions will change and redesign both energy markets, the current markets and their influence on the Dutch and Belgian society will have to be explained. Moreover, current developments on the energy markets will also be included in the sub question. The sub question is as follows: "*How are the Dutch and Belgian energy-markets characterized and what are the ongoing developments that can be recognized?"*

This sub question will mainly be answered through the data of Dutch and Belgian policy documents, reports, articles, and for a smaller part the interviews. The policy documents and the reports will contain valuable data about the energy markets, the composition of the energy mix and the sector in which the energy sources are used. The developments and changes of the energy markets will mostly be recognized through (vision) documents and the interviews.

4. The fourth sub question will have to describe the implementation of the energy transitions in the Dutch and Belgium energy markets/society. Since the energy transitions will have to be executed by the Dutch and Belgian societies, collaborations and agreements will have to be formed. This sub question will investigate the executive component of the energy transitions. The sub question is as follows: "*How are the Dutch and Belgian energy projects that contribute to the energy transitions facilitated?"*

This sub question will have to be answered through both written and spoken texts. Documents and reports will help to clarify the official collaborations and agreements between stakeholders. Interviews will help to gather information about the contact between stakeholders and the extent to which these stakeholders appreciate this.

The four sub questions will all contribute to the research question of this thesis. The first and second sub question examine the three dimensions of the sustainability discourses extensively in order to create a comprehensive understanding of the characteristics of the sustainability discourses. The third and fourth sub question examine the sector that will be essential in executing the transitions: the energy markets and energy projects. In order to fully understand how the influence of the sustainability discourse on the energy transitions can be measured, the correlation with the sub questions will be explained. The second sub question will discuss in which way the three dimensions of the sustainability discourse have changed over time. In which way these dimensions have changed will 'influence' the willingness and possibilities to act on the energy transitions. The third sub question examines the characteristics of the Dutch and Belgian energy markets and describes the ongoing developments. The developments of these markets could be steered or 'influenced' by the sustainability discourse, since people could attach more or less value to certain energy sources and/or phenomena, which in turn will influence the energy transition. The fourth sub question examines emission reduction projects and renewable energy projects in the Netherlands and Belgium, which will help to understand how both countries aspire to execute their energy transitions. The sustainability discourse could influence the willingness of stakeholders to cooperate and/or to use certain sustainable measures, which in turn will influence the execution of the energy transition. So, the 'influence' of the sustainability discourse will be examined through the sub questions.

3.2 Selection

The research design of this thesis could be recognized as a comparative case study. However, the research question could be answered without making the comparison between the two countries. When the research results have been collected, the research question can be answered. Moreover, the results between the countries can be compared, which could provide information about the role of sustainability or collaboration on successfully executing an energy transition. It is very important that similar countries will be investigated to maintain the research validity. The comparison between countries with different physical characteristics or an entirely different culture would lead to a twisted comparison because the countries would have different situations and angles on their energy transitions. It would be incorrect to compare the energy transition of Norway with the transition of Senegal, which is a less prosperous country and has a worse economy. With this in mind, this theses choose to focus on the energy transitions of the Netherlands and in Belgium. Both countries are struggling with their energy transitions and it is still uncertain whether they will reach their 2020

targets. The Netherlands and Belgium are relatively similar and share a significant number of characteristics. Both countries have a high population density, a number of big cities and similar economies in which services and industries are the most important. To gather knowledge about the sustainability discourses, the energy markets and the collaborations a number of important stakeholders will have to be interviewed. One of the most important stakeholders in both countries is the federal government. The government invents the national policies and is hereby very important in the energy transition. In addition to the national government, the city councils/municipalities will be responsible for local policies. Companies and organizations that will participate in the energy transitions will also be interesting to investigate.

In the Netherlands, the national government, the municipality of Nijmegen and the energy company Nuon will be interviewed. In Belgium, the federal government and the municipalities of Antwerp and Bruges will be interviewed. Moreover, two previously held interviews will be used as well. These interviews with the Dutch housing corporation De Alliantie and the municipality of Súdwest-Fryslân clarify the structure and collaboration between actors for energy projects.

The combination of all these different actors will provide a broad scale of data. It can be argued that examining a small amount of actors instead of a broad scale of actors would be beneficial to be able to evaluate the influence of the sustainability discourse on the energy transition. This would allow the researcher to execute an in-depth research on, for example, only the Dutch and Belgian government. The benefits of examining a broad scale of actors is that this would allow the researcher to gather different perspectives. Especially for a subject such as the energy transition in which numerous (societal) stakeholders are involved, it would be wiser to conduct the research through numerous stakeholders. However, the researcher should be ensured that the different stakeholders are coherent and examining them would lead to a satisfying amount of data. In this thesis it is expected that the combination of the national governments, the local governments, an energy company and a housing corporation will provide the relevant information that will be necessary to evaluate the influence of the sustainability discourse on the energy transition.

3.3 Research methods

Examining the discourse of a societal concept such as a discourse is a clear example of scientific discussions within the social epistemology. The focus of epistemology has tended to become the philosophical investigation of propositional knowledge (Pritchard, 2016). Discourses are the result of the dominant perception of phenomena by a group of people, which gives this group of people a certain power. Although not directly, people can shape the sustainability discourse by being a part of

the discussion. Examining a discourse is very complicated, not only does the dominant discourse needs to be recognized, the group of people and actors that contributed to this dominant discourse needs to be recognized. Recognizing the origin of a discourse can be compared to tracking down the source of knowledge, which makes this thesis of an epistemological nature. Classic questions like 'where does the information come from?' and 'How did this information originated?' are properties of epistemology that apply to this thesis.

This thesis examines the influence of the sustainability discourse on the Dutch and Belgian energy transitions. Since a discourse is made by people that speak, write, and think about a certain concept, people create the reality and definition of the concept themselves. Since the sustainability discourse needs to be recognized and examined, qualitative research will be required. Qualitative research offers the opportunity to examine the reason and story behind certain phenomena. Where qualitative research focuses on words, quantitative research tends to focus on numbers and measuring certain phenomena. A quantitative research method would not be able to recognize and describe the sustainability discourse, since the characteristics of this discourse are not measurable in figures but in policy and social interactions. The research method that will be applied in this thesis is a discourse analysis, since this method is capable of researching the process that led to certain decisions. (Bryman, 2015). There is not one fixed version of discourse analysis because of the different understanding and usage of discourse analyses. Potter (1997) believes a discourse analysis should emphasize the way the versions of the world, society and events are produced in discourse. Van Dijk (1993) mentioned that a discourse analysis should offer more than just a definition of the discourse. Grammatical structures, organizational patterns of dialog and style are all part of the dominant discourse and should be considered in defining the discourse. Discourse analysis involves all the dimensions of language, society, culture and cognition (Van Dijk, 1993). This is done by reviewing in which way texts (spoken and written) constantly change, challenge and reproduce discourses (Jørgensen & Phillips, 2002; Bryman, 2015). Observing interactions between texts and society is the main domain for discourse analysis (Arend, 2007). Over time, using a discourse analysis as research method has become more common in environmental and policy research (Sharp & Richardson, 2001). Policy documents are usually the data that will be analyzed to identify the dominant discourse. However, according to Sharp & Richardson (2001) just analyzing policy documents will not provide an overall and correct discourse, researchers should go deeper than just texts. Gee (2011) argues that researchers that use a discourse analysis should focus on the context and significance of information in conversation and texts. The researcher should examine the way the speaker/writer tries to give significance, enact things, depict things, recruit things, use things, connect things, disconnect things, privilege things and disprivilege things (Gee, 2011).

3.4 Data collection

In order to gather all the data for the sub questions, the researcher should determine which sources could provide this data. Classic methods to acquire relevant information are a literature study and in-depth interviews. This thesis will use both of these methods to require the essential information. The first method will be analyzing relevant documents. These documents consist of policy documents, reports, articles and other written information. All four of the sub questions will be answered through a literature study and in-depth interviews. The interviews will serve as a tool to gather information about the sustainability discourse, ongoing developments on the energy markets and the implementation of energy projects. Examining the ongoing developments on the energy markets and the implementation of energy projects will require specific questions during the interviews. However, examining the sustainability discourse requires more than just specific questions. Normally, the analyzation of a discursive event is carried out through a framework that is connected to the subject (Bryman, 2015). So in order to examine the sustainably discourses correctly, a 'three dimensional' framework' will be used. This framework is based on the framework by Grant et al. (2004) and the criteria that Gupta (2010) used to analyze environmental discourses. The framework of Grant et al., (2004) listed as:

(1) Examination of the actual content, structure and meaning of the text under scrutiny (the text dimension) ; (2) examination of the form of discursive interaction used to communicate meaning and beliefs (the discursive text dimension) ; (3) consideration of the social context in which the discursive event is taking place (the social practice dimension).

The criteria that Gupta (2010) applied in her research listed as:

(1) The science, actors and coalitions; (2) The agreements and instruments; (3) The discourses.

The research by Gupta focused more on collaboration and the evolution of the sustainability discourse. Despite of the fact that the three main criteria by Gupta (2010) are rather describing the sustainability discourse than evaluating it, recognizing the strengths of Gupta's (2010) framework could help successfully executing the framework by Grant et al (2004). Based on the three-dimensional framework by Grant et al. (2004), with the addition of examining the formation of coalitions and agreements by Gupta (2010); three dimensions for recognizing the sustainability discourse have been formulated:

-Examining the form of communication and coalitions of sustainability.(*The discursive text dimension*)
-Examining the structure, actual content and agreements of sustainability. (The *text dimension*)
-Examining the social context of sustainability. (*The social practice dimension*)

As previously, two data collection techniques are used in this thesis, the so-called multi-method (Saunders et al., 2007). According to Swanborn (1987), combining several data collection techniques positively contributes to the (internal) validity of the research. Since interviews are of a subjective nature, the researcher should try to avoid the risks of this kind of research. Working according a framework provides more structure and clarity in the research. Moreover, applying structured interviews with an interview manual enhances the reliability of the research (Saunders et al., 2007). The respondents for the in-depth interviews, which are listed in paragraph 3.2, will be asked in advance whether they agree that the conversation will be recorded or not. This allows the interviews to be transcribed and used to see what has been said exactly. Transcribing the interviews also increases the transparency of the research since the readers of this thesis will not only read the view and perception of the author of this thesis.

3.5 Data analysis.

This thesis does not only use interviews for relevant information; articles, papers, policy documents and reports are all examined to give answer to the sub questions. In order to evaluate this data correctly, a document analysis has been carried out. Document analysis is a systematic method for evaluating documents and it requires the interpretation of the researcher in order to gain understanding and develop empirical knowledge (Corbin & Strauss, 2008) Moreover, the researcher is appointed to give voice and meaning around the topic of the research project (Bowen, 2009). O'Leary (2014) discussed the process that should take place in a document analysis, he outlined 8 steps that needs to be made. The most important ones, at least according to the author of this thesis, is to know what information you are looking for, acknowledging and addressing biases and to ensure the credibility of the research. The usage of various documents with different authors would be better than using only one actor, but the focus should be on the quality of the documents instead of the quantity (Bowen 2009). The literature review will be done extensively to gather the most insight about the subject as possible. Before even executing the discourse analysis the researcher should have studied the theoretical and research literature (Howitt & Cramer, 2007). As previously mentioned, a discourse analysis tries to grasp the underlying reason why certain decision have been made. To acquire this information, the right questions should be asked. After requiring this information it is very important to make a correct interpretation of the information.

The three dimensions that have been formulated in paragraph 3.4 provide the structure for chapter 4&5. Chapter five addresses the development of the Dutch and Belgian sustainability discourses. After providing a detailed overview of the three dimensions, a table will be presented that will help to understand the development of the Dutch and Belgian sustainability discourses. These tables can

be seen as an extension and summary of the texts, which simultaneously visualizes the texts and makes it easier to understand. These tables consist of six characteristics that have been composed in order to substantiate the made observations and arguments, will provide more clarity and it will help visualize the Dutch and Belgium sustainability discourses. The characteristics lists as follows:

-Form of communication

-Formation of coalitions

-The content/'numbers' of sustainability

-Formation of agreements

-Societal developments

-Involvement of civilians in sustainable measures

The first two characteristics are derived from the first dimension, the third and fourth characteristics are derived from the second dimension and the fifth and sixth characteristics are derived from the third dimension.

3.6 Operationalization

To guide the research in the correct direction, the concept 'sustainability discourse' will be operationalized. Operationalization entails that abstract concepts can be defined as measurable indicators (Bryman, 2015: 149). This thesis examines the influence of the *sustainability discourse*, which is quite abstract. Let's first delimit the concept of '*sustainability discourse'*. As previously mentioned, the concept will be researched through three dimensions:

-Examining the form of communication and coalitions of sustainability.
-Examining the structure, actual content and agreements of sustainability.
-Examining the social context of sustainability.

The concept of '*sustainability discourse'* is operationalized in table 1.

	Dimensions	**Characteristics**
Sustainability discourse	Examining the form of communication and coalitions of sustainability.	-Form of communication -Formation of coalitions
	Examining the structure, actual content and agreements of sustainability.	-The content/'numbers' of sustainability -Formation of agreements
	Examining the social context of sustainability.	-Societal developments -Involvement of civilians in sustainable measures

Table 1: The operationalization of the concept 'sustainability discourse'

Chapter 4. Results: In which way has the international sustainability discourse developed?

This chapter will discuss the international sustainability discourse by examining the three established dimensions 'The discursive text dimension', 'The text dimension' and 'The social practice dimension'. Afterwards a short conclusion will be presented about the development of the international sustainability discourse.

4.1.1 The discursive text dimension

The Brundtland (1987) report paved the way for more environmental reports and commissions, one year later the Intergovernmental Panel on Climate Change was founded. Since the IPCC was founded they have been one of the most important and influential actors on evaluating and researching environmental problems. Both the publication of the report and the newly founded panel stirred environmental-thinking in the Western world. The year 1989 held a lot of meetings about climate change: the Small Island States meeting, the Francophone Summit in Dakar, the G7 Meeting and the Commonwealth Summit were all about the concept and problems of climate change. (Gupta, 2010). Over the next years the IPCC kept publishing reports elaborating the influence of humans on the environment (IPCC, 1996). The United Nations Framework Convention on Climate Change (UNFCCC) categorized and divided countries in either the developed group, named Annex 1, or the developing group, named Non-Annex 1. Categorizing countries would bring more structure and clarity about the role of countries on environmental problems. The Kyoto-protocol report assessed countries on two major features: the wealth per adult and their contribution to the emission of greenhouse gasses (GHG) (UNFCCC, 1998). The countries that scored high on wealth and put out a significant amount of GHG would become part of Annex 1, and countries that scored low on wealth and the emission of GHG would become part of non-Annex 1. Eventually a new group was created; the richest and most developed countries would be placed in Annex 2. The countries in Annex 2 have to provide more financial and technical support to the non-Annex countries than the Annex 1 countries are obliged to. These international collaborations had and have to lead to reducing the GHG emissions and hereby counter climate change. Over the last 20 years the number of countries that committed to the UNFCCC have increased significantly, which resulted in the signing of the Paris Agreement by all 195 countries on earth. The United States withdrew from this agreement in 2017 and made itself the only country on earth that is not a member of the UNFCCC.

4.1.2 The text dimension

The 1980's and the beginning of the 1990's could be characterized with exploring the environmental problems and the definition for concepts such as 'environmental problems', 'sustainability' and 'climate change'. The United Nations organized the Earth Summit in Rio de Janeiro and opened for signature in 1992, and the Climate Convention became the precursor of sustainability agreements and concessions. The objective of the Climate Convention is to prevent dangerous anthropogenic interference with the climate system by stabilizing GHGs in the atmosphere (UNFCCC, Art. 2, 1992). The instrument includes five main principles: the countries should protect the climate system for the benefit of present and future generations of humankind by the principles of common but differentiated responsibilities (CBDR), the countries need to pay extra attention to the specific needs off the vulnerable developing countries, the countries should take precautionary measures to anticipate, prevent or minimize the causes of climate change, the countries should promote sustainable policies and development and the counties should cooperate to promote an open and international economic system (UNFCCC, Art. 3, 1992). The principle concerning the common but differentiated responsibilities (CBDR) has been crucial in forming acceptable international agreements about the reduction of emissions. The CBDR principle reasons all members of the Climate Convention have the same interest but do not share the same responsibilities to acquire that interest. All members want to reduce the negative impact they have on the environment, but not all members are equally responsible because of unequal contribution to the problem and their competence to address the problem. The CBDR principle ensures that the big polluters have to implement more measures than members that are small polluters, which seems 'fair'. The Kyoto Protocol extends the Climate Convention of 1992 and commits the members to act on the proposed environmental measures. Although the Kyoto Protocol has been indispensable in environmental policy, it is not flawless. The agreement has listed six GHGs of which the atmospheric concentrations needs to be reduced: carbon dioxide, methane, nitrous oxide, HFCs, PFCs and SF6 (Protocol, 1998). Critics such as Gupta (2010) claim that the targets for the reduction of GHG were very low and that Carbon Trade is counterproductive in reducing the essential CO_2-emissions.

4.1.3 The social practice dimension

As previously mentioned in paragraph 4.1.1 and 4.1.2, did the concept of sustainability arise in the second part of the 20th century. The 1980's and 1990's can mostly be characterized by exploring the environmental problems and forming international cooperation. Since the concept of sustainability

was still so new, the influence of the discourse was difficult to recognize. However, researches by international coalitions stressed the risks of climate change. Sustainability was mostly a concept that was relevant for international polices, not so much for national governments or societies. The concept of sustainability still needed to be given shape, just as the international relations regarding the discussions of sustainability needed to be given shape. Years of international researches on the effects of climate change have changed the way people (on the international level) thought about this phenomenon. The discussions at the UNFCCC were mostly about the consequences of climate change and the expected temperature rise. Other important discussion topics were the expected sea-level rise which would lead to floods of low-lying coastal areas. People attached more and more value on sustainability, which amplified the sustainability discourse internationally. The principle of CBDR was introduced and led to a new composition of Annex 1 members and Non-Annex 1 members. The Annex 1 members would have to support and assist the Non-Annex 1 members in their sustainable development. The developing countries expected more financial and technical support than that they got from the Annex 1 countries (Government of China, 2008; United Nations, 2007). It turned out that the developed Annex 1 members were not too enthusiastic on assisting the developing Non-Annex 1 members, and chose to stick to the minimal pre-arranged financial support. The aspect of leadership and progression changed in the 1990s. According to the Resolution on Global Warming (Congress, 1997), the White House was under the assumption that if the United States would act on their supposed reduction of GHG emissions the world's economy would collapse. This ultimately led to the United States abandoning the Kyoto Protocol. The international coalition that was divided between leading and following members lost one of their most prominent Annex 1 countries, which led to uncertainty and a reduced demand for Certified Emission Reduction (CER) units. The reduced demand for the CER units led to a reduced value, which then led to less stimulus for the Annex 1 members to act on environmental measures to sell the CER units. International relations were under pressure, since the importance and feasibility of sustainability decreased. Although the trading of CER units recovered and became very successful, the aspect of strong leadership did not fully recover. Nevertheless, the international perception of sustainability had strengthened in this time. The Kyoto Protocol led to sustainable measures in affiliated countries, which led to an increased awareness of sustainability around the world. Action groups no longer stood alone in their ideologies since national governments and citizens learned about the concept. Although some countries wanted to act on the concept, their legal systems hindered effective measurements. France, Italy, the Netherlands and Belgium all face this limited power to execute national policies (Gupta, 2010; Noeninckx, personal communication, September, 27, 2018).

4.1.4 Sub Conclusion

This sub conclusion is based on the three dimensions that have been established in paragraph 3.4. After examining the different aspects of the international sustainability discourse, the findings can be summarized. The concept of sustainability has its origin in the scientific world, where the concept increasingly more often appeared in researches. After major researches that stressed climate change and the consequences, the United Nations picked up on the concept. The concept of sustainability hereby became relevant for the international community, which created the IPCC that should assess and examine climate change. The counterpart of the IPCC, the UNFCCC, operated as a framework to unite all nations. This resulted in the emergence of the Kyoto Protocol, which obliged all members to reduce their GHG emissions in order to mitigate climate change. This agreement has been criticized, but as the first international agreement to mitigate climate change, the utility of the Kyoto Protocol should not be underestimated. The sustainability discourse strengthened on the international level and gradually reached the national level as well. The integration of sustainability within international policies helped national governments to understand the need of sustainable measures and how to formulate their own sustainable policies.

Chapter 5. Results. In which way has the Dutch and Belgium sustainability discourse developed over the 2008-2018 time period?

This chapter will discuss the Dutch And Belgium sustainability discourses by examining the three established dimensions 'The discursive text dimension', 'The text dimension' and 'The social practice dimension'. Afterwards, the most important characteristics of these three dimensions will be assessed on the basis of a model. These tables have been composed in order to substantiate the made observations and arguments, will provide more clarity and it will help visualize the Dutch and Belgium sustainability discourses.

5.1 The Dutch sustainability discourse

5.1.1 The discursive text dimension

The Netherlands has been an important actor in international discussions about environmental problems and climate change. The Dutch government hosted a successful climate-conference in Noordwijk in 1989 that ultimately led to the Climate Conference in 1992. On the international level, the Dutch have always been part of the coalition. In spite of the international experience did the Dutch government not manage to emphasize the importance of sustainability on the Dutch society. The first years of the 2008-2018 period were relatively quiet, governmental bodies and environmental groups were the primary actors that acted on sustainability. Although the international community heavily discussed the importance of sustainable policies and measures, it remained difficult for countries to move these discussion to the national level. The Netherlands experienced this as well, which led to a limited amount of societal actors that participated in the sustainability discussions. Industries and companies quickly discovered the consequences of sustainable measures, which would negatively affect their finances. Actors that were involved in sustainability projects were mostly organizations of the public sector or organizations that acted on moral values, such as WNF. A few years after 2008, sustainability became increasingly more interesting because of different reasons that will be discussed in paragraph 5.1.3. The willingness of the private sector to invest in sustainable measures significantly increased, which offered the opportunity to form sustainability coalitions. The first major Dutch coalition was the Energy agreement (Sociaal Economische Raad, 2013). This agreement obliged the Dutch federal government, major overarching organizations and federations to work towards a sustainable society. Overarching organizations that are part of the Energy agreement concern construction companies,

electricity companies, the built environment, the banking sector, municipalities and other important segments for sustainability. In spite of different interests did the members succeed in the composition of the sustainability document. The composition of the Energy agreement should be reduced to the Dutch sustainability discourse. Over the last decade, the narrative on environmental policy has changed in the Netherlands towards a shared responsibility. Schmeitz, program leader for coordinating the Dutch Energy transition shared his perspective:

"We do not view the energy transition as a task for the national government, we see it as a task for the entire society with its citizens, businesses, governments, knowledge centers and the banking sector" (Schmeitz, personal communication, May 2, 2018).

While lots of companies and organizations were familiar with sustainability, the necessity of sustainable measures were not emphasized in their policies, daily actions and meetings. Despite the fact that societal actors knew about climate change and green possibilities, sustainability remained pretty unimportant and was mentioned in day to day conversations very little. Large energy producer Nuon mentioned that the Paris Agreement really changed their perception on sustainability, the sustainability targets were taken a lot more seriously (Van Alpen, personal communication, July 31, 2018). Despite the fact that the Dutch government already acted on (international) sustainability targets, the way sustainability was discussed between governmental departments changed in the 2008-2018 time period. The discussions shifted from the need of sustainability measures to the implementation of changes. Just like Nuon did the Dutch government experience the Paris Agreement as an additional incentive to act sustainable (Schmeitz, personal communication, May 2, 2018).

While societal actors were still hesitant in the first years of the last ten years to act on sustainability, it is safe to say that public *and* private sector have showed their willingness to act in the last few years. Dutch companies and organizations realized that they are part of the Dutch energy transition and want to contribute to this transition. Given the fact that major organizations and federations have signed the Energy agreement in 2018, large segments of society have showed their willingness to be part of the energy transition. The Dutch government and over 100 major organizations and businesses have composed and signed the Climate Agreement in 2018, which should lead to a reduction of CO_2 emissions with 49% in 2030 (compared to 1990). Compared to the Energy Agreement from 2013, the Climate Agreement contains significant more members and has an ambitious target for 2030.

5.1.2 The text dimension

The Netherlands has been subject to a number of climate policy documents in the time period 2008-2018, figure 2 provides an overview of the most important documents. Just as the little amount of actors and coalitions that were willing to act sustainable in the first years of the 2008-2018 period, could the amount of useful agreements and instruments that were present in these first few years be labeled as limited.

The Kyoto Protocol was the first international coalition that compelled the Netherland to act on climate change. The Netherlands had to reduce their emissions of GHG in 2012 with 6% compared to their 1990 emissions. The Protocol officially ended in 2012, but the 'extended second period' will last until 2020. The Netherlands did also sign the extension, which aims to reduce the CO_2 emissions with 18% with respect to 1990 emissions. The European Commission stated their targets in their vision-document Europe 2020, which were obligatory as opposed to the extended Kyoto Protocol (European Commission, 2010). Every member of the EU received customized goals, the Netherlands needs to reduce (in comparison with 1990) their CO_2 emissions by 20%, reduce their energy consumption by 20% and 20% of the used energy needs to be generated by renewable energy (European Commission, 2010). In spite of all the national and international meetings and conventions, The Netherlands is only obliged to achieve the targets set by the EU. The Dutch government decided that it required a holistic instrument to create and promote sustainability, which resulted in an agreement that binds the participating actors. The document Energieakkoord (*Energy Agreement) (2013)* ratifies the contribution of each member to: reduce the final energy consumption about 1.5% per year, increase the share of renewable energy to 14% in 2020 and 16% in 2023 (Sociaal Economische Raad, 2013). The instrument works with 10 pillars for sustainability. The most important pillars are: to reduce the energy consumption in the built environment, the industries and the agricultural sector, to increase the share of renewable energy in the national energy consumption, to stimulate the production of decentralized energy and to improve the sustainability of the mobility & transport sector (Sociaal Economische Raad, 2013). The Government claims that the coalition is on schedule with their goals for 2020 (Rijksoverheid, 2018a). The Paris Agreement was signed in 2015 and obliged every country in the world to act more sustainable, reduce their fossil fuels and reduce their emissions (UNFCCC, 2015). The Paris agreement has set goals for 2020, 2030 and 2050. The reason that every state signed the agreement is due to the lack of repercussions for countries that do not achieve their targets. The Paris Agreement aims to reduce Europe's GHG emissions with 20% in 2020, 40% in 2030 and 80-95% in 2050 (all in comparison to 1990) (UNFCCC, 2015). Two years prior the publication of Climate agreement (2018) the government

published the document Energie rapport Transitie naar duurzaam (*Energy report Transition to sustainable),* which already contained the Dutch energy targets for 2023, 2030 and 2050 (Rijksoverheid, 2016). This document included the targets but did not contain methods to achieve them. The Dutch government published the document Klimaatakkoord (Climate agreement) (Rijksoverheid, 2018b) as an instrument to be able to achieve the targets of the Paris Agreement. The Climate agreement's sole purpose is to guide the Netherlands to a reduction of GHG emissions of at least 49% in 2030 (in comparison to 1990). This instrument recognized five polluting sectors that need to reduce their GHG emissions. These sectors are the built environment, the industry, agriculture and land usage, electricity and mobility (Rijksoverheid, 2016).

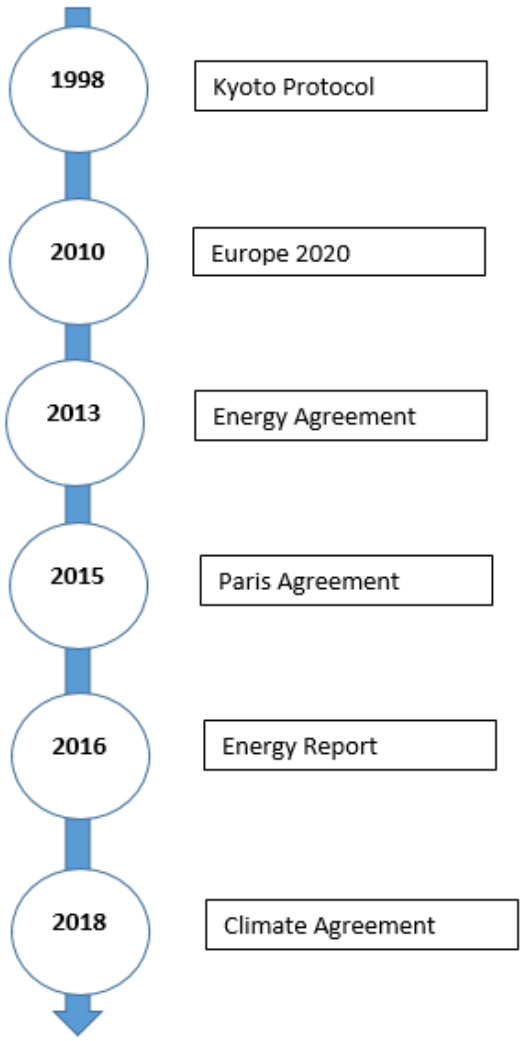

Figure 2: Overview of Dutch agreements and instruments, source: author.

5.1.3 The social practice dimension

Since a dominant discourse is capable of determining and shaping the characteristics of a society, the influence of a discourse could be significant. A discourse is the dominant thought or image people have when they think about a certain concept, in this case sustainability. The sustainability discourse has significantly changed over the 2008-2018 time period. As the previous two paragraphs explained, the amount of actors that were involved in sustainability and the amount of agreements that could lead to action were limited. Unlike the current definition for sustainability that is quite broad, was the concept of sustainability originally primarily focused on the CO_2 emissions. If organizations or companies wanted to become more sustainable around 2008, they would have to reduce their CO_2 emissions, which would mean that they would have to use a different and more expensive energy source. Renewable energy technologies/energy alternatives were not yet advanced at that time, which is one of the reasons that sustainable measures were expensive and not appealing for a large segment of the Dutch society. This prevented the formation of sustainability coalitions and agreements which could make a major contribution to the energy transition. Although large coalitions and revolutionary changes remained out in the first years of the time period, the Dutch society showed that they were indeed aware of the need of sustainability. Terms as 'climate neutral', 'green' and 'energy transition' became increasingly more accepted in daily conversations, just as these terms were looked up on google more often (Verbong & Loorbach, 2012). Other examples are the scoop of the Netherlands on 01-02-2018 through the very first climate-neutral classical concert in Amsterdam, the creation of the Dutch sustainability day by the Urgenda Foundation (09-09-2009) and the car free Sunday of 21-08-2008 when 200 'sustainable/clean' cars drove through the center of Amsterdam. These phenomena showed that the Dutch society became more aware about the concept of sustainability. However, most of these phenomena were one-off actions. Nevertheless, they undoubtedly informed people about the importance of sustainability and it strengthened the position of sustainability in the Dutch society. This position has only strengthened over the years and it acquired a central position in most layers of society. Governmental bodies try to act sustainable, the private sector is inclined to act sustainable since citizens judge them for it and (a part of) the citizens try to make a change by themselves. The shift of the sustainability discourse sparked an immense increase of civilian participation in renewable energy, sustainability discussions and CO_2 reduction projects (Maessen, personal communication, June 27, 2018; Schmeitz, personal communication, May 2, 2018). As well as the citizens are becoming more involved in sustainable measures, the national government states that they want to work with the citizens (Schmeitz, personal communication, May 2, 2018). The national and local governments state that they want to

support sustainable projects and ideas. Maessen, counsellor of the energy transition for the municipality of Nijmegen expressed it like this:

“We want to help our civilians and their initiatives by making connections, bringing people in contact with each other and to share knowledge”. (Maessen, personal communication, June 27, 2018)

The municipality of Nijmegen has acted on this perception for the last years, and managed to win the price and become the European Green Capital of 2018. The municipality has reportedly won the price by years of sustainable behavior, the city and its residents, young and old, have improved the sustainability of the municipality by small and large initiatives. The behavior of the municipality of Nijmegen that supported initiatives from the society has contributed to the sustainability discourse in Nijmegen, which experiences sustainability as a collective task.

A trend of shared responsibility could be recognized in the span of 10 years. While the Dutch government primarily took charge of the energy transition by formulating policy individually, stakeholders are getting increasingly more involved in the formulation of policy. On top of this does the continuing process of decentralization lead to less responsibilities for the national government, which makes provinces and municipalities accountable for energy and emission targets. The spatial planning Act of 2007 knew the motto: “Decentralized where it is possible, centralized where it is necessary”. The discourse concerning sustainability has shifted from hierarchical control with little dialogue by the national government to a situation where collaboration between several stakeholders is required for effective policy. Dutch energy projects have shown that collaboration between government and stakeholders can lead to an increased willingness by all parties to execute the project and to be pleased with the outcome (Amsman, 2017; Duyn et al., 2006).

Written texts about sustainable measures has changed significantly in the 2008-2018 period, both in quantity and content. The Dutch government in 2008 felt that restructuring the energy consumption could help them reach their Kyoto Protocol targets. The government wanted to reduce their CO_2 emissions, improve the ICT & technology sector to become more efficient and to create an energy mix with several fossil fuels (Rijksoverheid, 2008). In the energy documents of 2011 and 2016 the government does not promote fossil fuels to help the Netherlands reduce their CO_2 emissions. The thought that some fossil fuels are less polluting than others and hereby could be used to make the energy mix more sustainable does not fit the sustainability discourse of this time, which shows the made change well.

5.1.4 Assessment of the Dutch sustainability discourse characteristics

After examining the three dimensions of the Dutch sustainability discourse, several claims can be made. The concept of sustainability was still quite unknown in the Netherlands in 2008, as can be seen in table 2. Although the concept gained traction in European discussions, it appeared difficult for organizations to move these discussions to the national level. In particular governmental bodies, large organizations and the energy market did not act accordingly to the sustainability concept that gained traction in the Dutch society. There was little communication between organizations, governmental bodies and civilians about sustainable topics. Collaborations, plans and coalitions were also not formed yet, since the concept still had to be included in policies and events. Over time, the amount of communication and research about sustainability significantly increased. Simultaneously, coalitions and agreements were formed in order to make the ambitious ideas about sustainability feasible. In 2008, most people appeared willing to act on sustainable measures. It appeared to be important for civilians to be involved in sustainable projects, governmental bodies acted on this and became increasingly more successful.

Characteristic:	Unit	Assessment of 2008:	Assessment of 2018:
-Form of communication	+ / 0 / -	0	+
-Formation of coalitions	+ / -	-	+
-The content/'numbers' of sustainability	+ / 0 / -	0	++
-Formation of agreements	+ / -	-	++
-Societal developments	+ / -	+	++
-Involvement of civilians in sustainable measures	+ / 0 / -	+	++

Table 2: An assessment of the characteristics of the Dutch sustainability discourse

5.2 The Belgian sustainability discourse

5.2.1 The discursive text dimension

In comparison with the development in other European countries did it take a long time before the sustainability theme fully emerged in Belgium. While the Netherlands and the Scandinavian countries quickly reacted on the international awareness, didn't Belgium really do anything. Belgium gradually became more involved in international research programs, such as the IPCC, and gained knowledge about environmental problems and sustainable policies (Bruyninckx & Bachus, 2001). While Belgium started to work with sustainability on the international level, sustainability still had to be adopted on the national level. NGO's, together with international researches, have introduced the concept of sustainability as a theme for discussion in the Belgian society. Later, when the Belgian government became fully aware and involved in the sustainability concept, they took charge of the concept by creating definitions and policies. When we fast-forward to the 2008-2018 period, we could see that there have not been significant changes of the sustainability concept. Sustainability mostly remained a concept that was important for the federal and regional governments. However, certain cities, including Bruges, signed cooperation-agreements with their regional government that included a 'sustainability cell' (Soulliaert, personal communication, September 20, 2018). However, Belgian sustainability policy is quite complicated because of the division of power and responsibilities between the federal and regional governments. Alongside the federal government are three regional governments that are of similar authority and power: the Flemish Region, the Walloon Region and the Brussels-Capital Region. The federal government is responsible for a functioning national energy network, energy security and nuclear energy. The federal government does have a certain amount of authority over the regional governments concerning the energy production and GHG emissions, however, the three regional governments are mostly empowered to carry out internal policies as they wish (Noeninckx, personal communication September, 27, 2018; de Herdt, Personal communication, September 19, 2018). This has resulted in different policies, methods and ambitions between the three regional governments. However, the international obligations towards the Kyoto Protocol (for 2012) and the Paris Agreement (for 2020, 2030 & 2050) are for the federal government. The fact that the federal government is not capable of executing its own policy across Belgium impedes achieving the set targets. The federal government of Belgium published a document that included the sustainability targets for 2050, just as it should increase the cooperation between the different governmental layers in Belgium. Almost all governments mentioned that the cooperation between them was far from efficient. When Belgium got its European targets through the Europe 2020 document (European Commission, 2010), it took the federal and regional governments 6 years

to successfully divide the measures. The new targets For Belgium set by the Paris Agreement will have to be achieved by cooperation between federal and regional governments. When asked about the to-come discussions about the division of measures, Noeninckx, strategic coordinator for the Belgian federal Energy Administration, said the following:

'These are indeed very intense discussions, which have taken place for 6 years concerning the Europe 2020 targets. We are already working to divide the measures for the 2030 targets, which is not easy, but I think that it will be easier than the previous one because of the gained experience'
(Noeninckx, personal communication, September 27, 2018)

The Belgian actors that will have to execute the energy transitions will primarily consist of the federal and regional governments. The Belgian coalition called *Energy Saving Pioneers* tries to push the Belgian society towards sustainable measures and ambitions. The coalition that mostly exists of sustainable businesses struggles with making their ideas and influence tangible in the Belgian society. The coalition published their vision document in 2014, which describes the possibilities of energy saving in Belgium. Since the federal government does not cooperate with this coalition, the coalition is limited to improving their own sustainability and giving the authorities advice. The coalition *Energy Saving Pioneers* shows that the Belgian society is aware of the need for sustainable measures. Instead of spending time on making societal coalitions, the federal government had to spend their time on distributing the national targets because of the complex regional relations. A clear structure that could lead to results is lacking (de Herdt, personal communication, September 19, 2018). Over the years, the federal and regional governments decided that their cooperation should become better and that their policies should be attuned to each other. They compiled the Interfederal Energy pact, which is the most promising sustainability coalition that Belgium have seen so far. Cooperation between the regional governments is the first step, adding societal actors such as businesses and citizens would be the next.

5.2.2 The text dimension

There have been a number of climate policy documents in the time period 2008-2018 that have affected Belgian sustainability proceedings, figure 4 provides an overview of the most important documents. Belgium's first encounter with sustainability policy was on international level, Belgium signed the Kyoto Protocol which obliged them to take measures. Belgium's target was to reduce their GHG emissions with 7.5% in 2012 compared to their 1990 emissions (Protocol, 1998). The Belgium

government struggled to reach the target of 7.5% on time, but managed to 'buy' the reduction of emissions. Belgium did not succeed to reduce the GHG emissions by itself, so it bought millions of euros worth of carbon emissions from other countries. After the protocol originally ended in 2012, an 'extended second period' would prosecute the sustainability progress. Belgium signed this extension, which makes them part of the international coalition that aspires to reduce the CO_2 emissions with 18% compared to 1990 (United Nations, 2012). As a member of the European Union, Belgium received customized sustainability targets. The vision-document Europe 2020 included the targets for all members, Belgium's goals are to reduce their GHG emissions in 2020 with 15% (compared to 1990) and to have at least 13% of the used energy generated by renewable energy (European Commission, 2010). The federal government of Belgium published their *Strategic Long term vision* in 2013 concerning their 2050 goals. Renewable energy should be the largest segment of the energy mix in 2050 and the electricity production should almost entirely be ran on renewable energy (Federale overheid, 2013). This instrument should increase the cooperation between the different governmental layers in Belgium, which should help to achieve the targets set by the European Union.

Belgium signed the Paris agreement in 2015, and herewith will have to work towards a reduction of Europe's GHG emissions with 20% in 2020, 40% in 2030 and 80-95% in 2050 (all in comparison to 1990) (UNFCCC, 2015). Since the structure of the Belgian government strongly divides the executive power, it is difficult to speak of national ambitions, let alone realizing sustainability targets. Ambitious targets could be met easier through joint decision making (Federale overheid, 2013). The Belgian Federal and Regional governments acknowledged this and work together through an *Interfederal Energy pact*. This document contains the interests of different governments and is the key instrument to unite the governments, write national policies and implement sustainability policies. The governmental bodies have agreed to systematically phase out fossil fuels in the energy mix until 2050 and to increase the renewable electricity production to 40% in 2030 and to 100% in 2050 (Federale overheid, 2018).

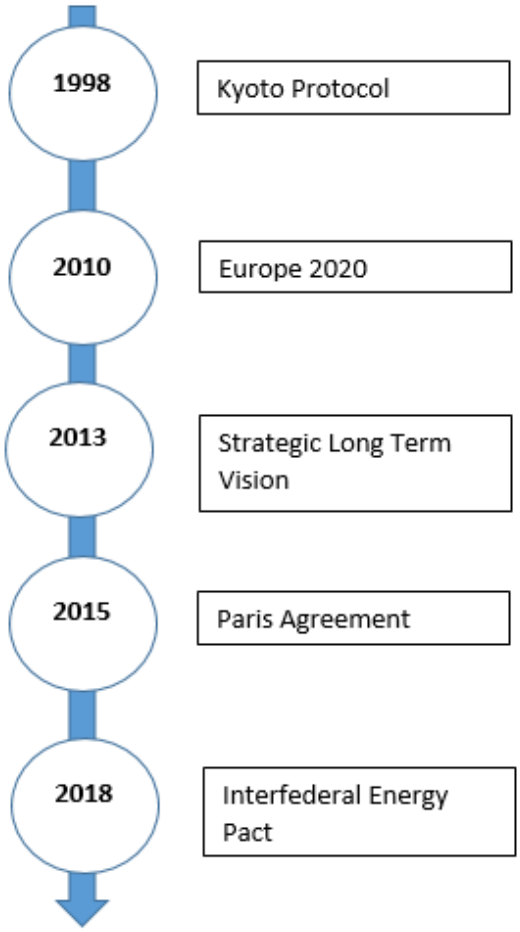

Figure 3: Overview of Belgian agreements and instruments, source: author.

5.2.3 The social practice dimension

The concept of sustainability slowly became more common in Belgium in the 1980's and 1990's. Despite of the late commissioning of sustainability in Belgian policy, the social dialog about sustainable development and policy started to increase since 1992 (Bruyninckx & Bachus, 2001). Around 2008, The Belgian government was still struggling with bringing the regional governments together. The regional government and federal government decided to use only one definition for sustainability, an attempt in aligning the priorities and policies. Meanwhile, the Belgium society has picked up the concept of sustainability. The dialog only increased over time, resulting in a society that has become more aware about climate change and sustainability. The position of these concepts in the Belgian society were strengthened since more people became familiar with them. Both through national policies and better informed citizens did the Belgium society improve their energy usage. The Belgian households and companies are increasingly more aware about the consequences of their energy consumption, are increasingly more committed to a rational energy usage and are

increasingly more involved in the energy production (Federale Overheid, 2018). Nevertheless, implementing environmental measures to achieve sustainability targets remain difficult tasks for municipalities. The municipality of Bruges mentioned that they experience little success with their sustainable policies, they expect not to make their 2020 targets (Interview). Soulliaert, climate coordinator of the municipality of Bruges explained the situation:

"*Bruges does not experience much resistance against sustainability, people are just not bothered enough to care. There are the believers that are easy to get on board. But they are just a small percentage of society*" (Soulliaert, personal communication, September 20, 2018).

The way people speak, think and act on sustainability has changed in Belgium, but since other actors than the federal and regional governments are not capable of bringing about change, little clear results have been made. The Belgian society is divided between two major segments; the first segment is willing to adapt to sustainable policies, even when this would lead more expensive energy sources, the other segment is mainly focused on the costs of sustainable measures and is not convinced that these costs are worth the results (Noeninckx, personal communication, September 27, 2018).

Inconsistent with the social developments in the Belgian society, there has been a striking change of sustainability targets in the policy documents. The policy document *National plan for renewable energy* (2009) aspired a sustainable energy policy with ambitious energy targets. The GHG emissions and usage of fossil fuels needed to be reduced, while the segment of renewable energy in the total energy consumption should increase to at least 13% (Energie Overleggroep Staat-Gewesten ENOVER/CONCERE, 2009). Furthermore, the document mostly emphasized on the importance of sustainability. When this document is being compared to the vision document of 2018, it is clear that the new document is characterized with more precise measures, but overall less ambitious energy targets. Where the 2009 document was characterized by stating that the usage of fossil fuels needed to be reduced because of their GHG emissions, does the 2018 document argue for an increase of renewable energy *and* an increase usage of the fossil fuel natural gasses. Although it is understandable that the removal of nuclear energy out of the energy mix will be hard to solely replace by renewable energy, it is difficult to justify the placement of new polluting gas plants towards the Belgian society and international partners.

5.2.4 Assessment of the Belgian sustainability discourse characteristics

After examining the three dimensions of the Belgian sustainability discourse, several claims can be made. It took a long time before the sustainability theme fully emerged in Belgium. In 2008, aspects of the sustainability concepts could mostly just be recognized in the Belgian society. Sustainable projects by societal actors arose before the Belgian government acted accordingly. As can be seen in table 3, the sustainability discourse had not yet reached through to Belgium in 2008. Over time, the amount of communication about sustainability between actors increased, which strengthened the position of the sustainability concept in Belgium. However, the formation of agreements and constructive cooperation's between governments appeared to be problematic. The structure of the Belgian government strongly divides the executive power, which makes it difficult to oblige someone/a regional government to execute sustainable measures. Moreover, the governmental bodies have different interests which impedes the formation of agreements and national action. The Belgian society showed that they have embraced the sustainability concept by hosting sustainable projects and their involvement in sustainable measures.

Characteristic:	Unit	Assessment of 2008:	Assessment of 2018:
-Form of communication	+ / 0 / -	0	+
-Formation of coalitions	+ / -	-	+
-The content/'numbers' of sustainability	+ / 0 / -	- -	+
-Formation of agreements	+ / -	-	0
-Societal developments	+ / -	+	++
-Involvement of civilians in sustainable measures	+ / 0 / -	0	++

Table 3: An assessment of the characteristics of the Belgian sustainability discourse

Chapter 6. Results. How are the current energy-markets characterized in the Netherlands and Belgium?

This chapter will discuss the energy-markets in the Netherlands and Belgium in detail, and will state the incentives of both countries to make an energy transition. The first part of this chapter concerns the composition of the Dutch energy mix and the ongoing developments on the Dutch energy-market. The second part of this chapter concerns the composition of the Belgian energy mix and the ongoing developments on the Belgian energy-market.
Afterwards, a short conclusion will be presented about the Dutch and Belgian energy-markets.

6.1 The Dutch energy market

6.1.1 Dutch energy mix

The Netherlands has a long history of exploiting their national resources for energy production. Since the 1300's the Dutch people were exploiting peat for big cities such as Amsterdam and Breda, but as well for cities in Belgium such as Antwerp and Gent (Van Dam, 2001). Peat even became the main fuel source in the coastal regions of the Netherlands. For most of the second millennium, wood, peat and coal were the main energy sources for the Dutch. The Dutch government started exploiting lucrative natural gas supplies since 1948, and found the largest gas-field of Europe in Groningen named 'Groningen-gasveld' in 1959 (Milner, 1963). In de 1950's, small villages close to the gas-fields started using the natural gas. The gas exploited out of the 'Groningen-gasveld' has been used for the energy supply of towns and villages, as well for export and the production of electricity. Of the original 2600 billion cubic meters of gas, there is currently around 650 billion still underground (NAM). The size of the gas-field is clearly visualized in figure 4. The 'Groningen-gasveld' is the main reason that natural gas has been one of the biggest energy sources for the Netherlands for the last 50 years. The other major energy sources are petroleum and coal. Almost all of the used petroleum in the Netherlands is imported, since there are only three small oil fields on Dutch territory. The Dutch started exploiting their coalmines in the 12th century and closed their last mines in the 20th century. All coal that is imported by the Netherlands will be processed in (new) coal mines.

Figure 4: The Groninger-gasveld, source MJ Smit.

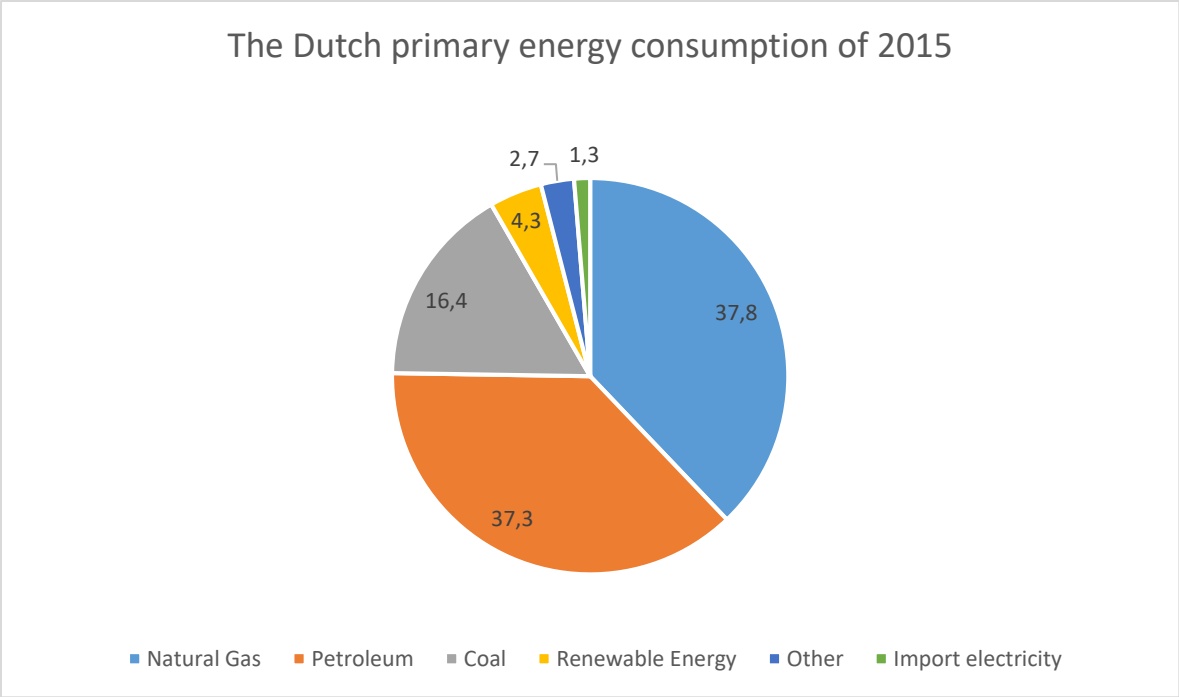

Figure 5:The Dutch energy consumption, source: author, based on data of Energieonderzoek Centrum Nederland, 2016.

The Dutch energy mix is led by two energy sources: natural gas and petroleum. The most used energy source of 2015 was the one that is abundantly present in the Netherlands: natural gas. Natural gas amounted for 37,8% of the used energy, which was just slightly above petroleum, which accounted for 37,3%. Natural gas is and has been the most used energy source, mainly because of the implementation of heat supply in the built environment and the usage for the electricity production. The size of the petroleum segment is caused by the transport sector, only a small amount of the used petroleum is used as the raw material for the fabrication of plastics. Coal is the third energy source, as it is mostly used as a cheap source for the electricity production. Renewable energy sources only accounted for 4,3% of the energy consumption, 2,7 % was generated through other energy sources and 1,3% of the energy consisted of imported electricity. The fossil fuels combined, which are natural gas, petroleum and coal, are responsible for 91,5% of the energy consumption. Only 4,3% of the energy consumption was generated through renewable energy sources, which emphasizes the limited influence of sustainability within the energy market.

6.1.2 Ongoing developments

Given the fact that the Netherlands is the number one producer of natural gas in Europe, it is understandable that the Dutch society heavily runs through natural gas. The government has approximately made more than 265 million euros on natural gas revenue, which emphasizes the importance of natural gas for the energy sector and the Dutch government. However, the gas extraction is likely to decrease significantly in the coming years and will be fully phased out in 2030 (Rijksoverheid,2018c). The extraction of Gas has led to hundreds of earth quakes in the northern part of the Netherlands. The people that have been negatively affected by these earth quakes are under the assumption that the government does not care about their living standards which led to national protests. The Dutch government declares that the planned reduction of the gas extraction will be made because of the safety of the Dutch residents (Rijksoverheid, 2018c). However, the fact that the gas resources are running out should be kept in mind. Likewise, reducing the gas production would significantly reduce the Dutch GHG emissions. The greater part of the built environment is constructed to run on natural gasses, which impedes the possibility of a quick shift in energy source usage (Energieonderzoek Centrum Nederland, 2016) The sheer size of the petroleum part can mostly be traced back to the Dutch transport sector, in which gasoline and diesel are the main combustibles. Just like the construction of the built environment, the transport sector is a clear example of the carbon lock-in principle. Both sectors are subject to self-perpetuating energy systems which constrain the rate and magnitude of carbon emissions reductions and the introduction of alternative energy technologies (Seto et al., 2006; Meijden & Smulders, 2017). The energy producers are in control of their own production, but they do have to deliver accordingly to the market. Dutch energy providers are increasingly becoming aware that they have to make the switch from fossil fuels to renewables if they want to secure their business continuity. While many small energy providers are already sustainable, the big providers need to follow suit. Research shows that almost all of the major electricity providers could be considered as polluters (Consumentenbond, 2017). However, these findings are somehow skewed. The small energy suppliers that are leading the sustainability chart only buy and sell electricity, they do not make investments in their own electricity production. Nevertheless, a shift towards sustainable policy can be observed. Nuon, a major energy producer and supplier, of which 69.5% of the energy mix of 2017 consisted of fossil fuels, has decided that they want to become fossil free within one generation (Nuon, 2017). Not only the policies have changed, the mindset about renewable energy has changed as well. Van Alpen, working for Nuon, mentioned the following:

"*There is a drive within the company to execute these kind of projects, which is really because of the employees. If you visit our wind energy department where they develop projects you could notice the drive to implement more and more wind energy. We do not have a department that wants to place new coal power plants."* (Van Alpen, personal communication, July 31, 2018)

The Dutch government works together with several national organizations and institutes to execute the reconstruction, which should lead to electric cars being responsible for 50% of the total new car sales in 2025 (Nederland Elektrisch, 2016). The impact of this energy measure will be small on the total transport sector because of the carbon lock in, but the transport sector can be changed step by step.

6.2 The Belgian energy market

6.2.1 The Belgian energy mix

Belgium have never had the luxury of exploiting energy resources on their own territory. Because of the lack of resources, they have always had to buy them from neighboring countries, such as the Netherlands and Germany. Being dependent on energy deliveries by other countries is quite vulnerable and expensive. The Belgian government saw nuclear energy as the perfect opportunity to become energy-independent (Starckx, 2016). Throughout the years, Belgium has deeply integrated nuclear energy in their energy mix. The plans for nuclear energy came up in the 1950's, two decades later the first nuclear plants were realized. Two major nuclear power plants were developed, located in the municipalities Doel and Tihange, as can be seen in figure 6. The first nuclear reactors were opened in 1975, of which two were located in Doel and one in Tihange. The power plant in Tihange was expanded with two extra nuclear reactors in 1983 and 1985. The power plant in Doel got expanded with two extra nuclear plants in 1982 and 1985. These nuclear power plants delivered a significant amount of electricity. In 2003, 56% of the total electricity production of Belgium was generated through the seven reactors; France was the only country that had a higher percentage of about 75% (Kunsch & Friesewinkel, 2014). As can be seen in figure 7, nuclear energy has been the source of 19,7 % of all used energy in Belgium in 2013. Although Belgium is capable of generating a fifth of their energy consumption, still almost all energy has to be imported. The energy mix of Belgium is really divided, as can be seen in figure 7 on the next page.

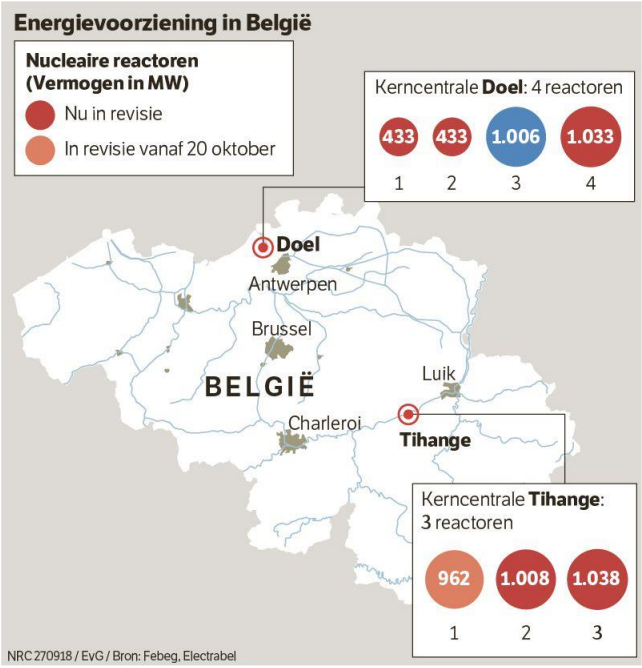

Figure 6: The Belgian Nuclear Plants, source: NRC, 2018.

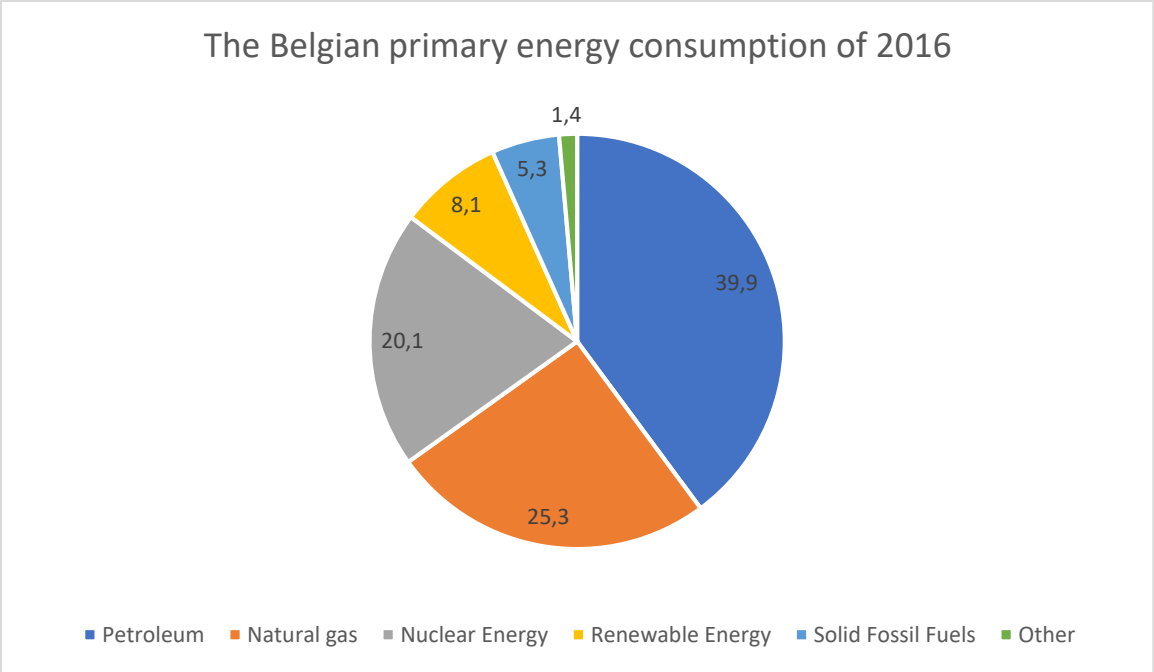

Figure 7: The Belgian energy consumption, source: author, based on data of the Belgian federal government, 2017.

The Belgian energy mix exists for the most part of three major energy sources: Petroleum, natural gas and nuclear energy. The leader of these three energy sources is the fossil fuel Petroleum, which is responsible for 39,9% of the used energy. The size of the petroleum sector is caused by transport sector, in which most of the vehicles still use gasoline and diesel. The second most used energy source has been natural gas with 25.3%, which is mostly used in the built environment for heat supply. Nuclear energy was the third largest energy source in 2016 with 20,1% and has been key in the Belgian electricity production. Renewable energy sources follow the list with 8,1%, 5,3% of the used energy is generated through solid fossil fuels (of which mostly coal). The segment of nuclear energy does not correctly show the significance of this energy source for the Belgian society. However, within the electricity production, the segment of nuclear energy accounts for 49,9% of all generated electricity in 2017 (FEBEG, n.d.). The fossil fuels combined, which are, petroleum, natural gas and solid fossil fuels, are responsible for 70,5% of the energy consumption.

6.2.2 Ongoing developments

The Belgian energy sector has always been a headache for the Belgian government. The necessity of energy made the Belgian government in the 1950's decide to invest in nuclear energy. The number of reactors increased over the next decades, until a change of government in 1999 led to a law that pleaded to close all nuclear plant between 2014 and 2025 (Andrews, 2008). The reactors should have been phased out since 2014, but this did not happen. It could be even said that there has not changed a thing over the last 18 years. The lack of innovation and investments in the energy sector have resulted in the continuing usage of the seven reactors. The federal and regional (Gewesten) governments have postponed the shutdown of the reactors multiple times in fear of electricity shortages. Eventually, the reactors do have to be closed. The nuclear reactors have become older over the years are operate not very often in full capacity. Maintenance and replacements are required more frequently, which significantly hinders the electricity production. Problematically, six out of the seven reactors will be closed in November 2018. All six reactors will be under maintenance simultaneously, resulting in the scenario which the federal and local government were afraid of: an electricity shortage. Belgium will have to increase the electricity production in her gas plants, reopen old gas plants and ask neighboring countries for extra electricity to have enough electricity to make it through the winter. Even when Belgium makes is through the winter with enough electricity, problems within the energy market have been exposed. It still is the question which energy source will have to replace nuclear energy when that is phased out completely. It is likely that new gas plants will be built for the electricity production to be able to fill the gap that the nuclear plants left behind. However, this puts Belgium in a difficult situation. Electricity production through gas plants is significantly more polluting than electricity by nuclear power plants. The current European emission targets are already challenging for Belgium, increasing the GHG emissions by generating more electricity through gas plants would be counterproductive for the emission targets. A trend that could be recognized is the increased amount of renewable energy projects by Belgian energy producers. Engie, Eneco and EDF Luminus all significantly increased their production of renewable energy over the last years. Solar parks and wind farms pop up in Belgium and contribute to the visible change of the Belgian society. Similar to the situation in the Netherlands is the Belgian transport sector subject to the carbon lock-in principle. Nevertheless, the federal government chose to decrease the petroleum usage by formulating sustainability policies which should lead to electric cars being responsible for 20% of the total new car sales in 2025 and 50% in 2030 (Federale Overheid, 2018).

6.3 Sub Conclusion chapter 6

After examining the Dutch and Belgian energy markets, several characteristics of these markets can be recognized. The Dutch energy mix of 2015 was still heavily reliant on fossil fuels, despite of international and national ambitions and targets which should have altered this dependency. The presence of the easy and cheap option of natural gas interfered with a quick transition towards renewable energy. However, it appeared that the establishment of the Paris Agreement sped up the pace of sustainable measures within the Dutch energy market. The Dutch society and its energy market has become more aware of the need of the energy transition, which is reflected in their actions and ambitions. The large energy providers are far from sustainable, but their policies and ambitions are promising. Fossil fuels were 'only' for 70,5% responsible of the Belgian energy mix of 2016. This is primarily because of the nuclear plants that deliver a great amount of 'green' electricity. The Belgian Federal government originally planned to close a few nuclear plants in 2015, but their electricity turned out to be too valuable for the Belgian energy mix, which is why they have to stay functioning for a longer period of time. Belgian energy producers (besides nuclear energy) are investing in renewable energy projects and hereby contribute to the Belgian energy transition. The nuclear plants will have to close from the year 2022, which gives the Belgian governments some time to develop renewable replacement projects. However, the federal government mentioned that they are planning to replace the electricity of nuclear energy with gas plants. The energy-markets of both the Netherlands and Belgium are subject to change, which results in a changed energy supply.

Chapter 7. Results. How are the Dutch and Belgian energy projects that contribute to the energy transitions facilitated?

This chapter discusses the process that energy projects in the Netherlands and Belgium. Examining the degree of collaboration and the overall process of energy projects will lead to a greater understanding about the challenge of the Dutch and Belgian transitions. As both countries mention in their policies, the energy transitions will have to be realized by both reducing the energy consumption and switching from fossil fuels to renewable energy sources. The chapter will start with the energy reduction projects and renewable energy projects in the Netherlands and after that the same will be examined for Belgium.

7.1 The Netherlands

7.1.1 Emission reduction through a housing corporation

According to the Dutch government, a significant amount of energy can be preserved through the thermal insulation of buildings, improvements in the energy-efficiency of machines and vehicles, more efficient production processes and an extensive reduction and reuse of materials (Rijksoverheid, 2016). The five polluting sectors that need to reduce their GHG emissions are the built environment, the industry, agriculture and land usage, electricity and mobility (Rijksoverheid, Klimaatakkoord 2018b). Of these five sectors, the built environment probably will have to 'gain' the most energy savings. The main goal for this sector is to transform the buildings and houses to more sustainable structures that will consume less energy. Since the formulation of the energy agreement of 2013, each year at least 300.000 buildings and houses have to improve their energy label with 2 steps (Sociaal Economische Raad, 2013). Besides the fact that the implementation of sustainability measures is accompanied by high costs is it very difficult to oblige people to act on it. The only audience that can be steered are the housing corporations since they have signed the energy agreement. Since the formulation of the energy agreement of 2013, each year at least 300.000 buildings and houses have to improve their energy label with 2 steps (SER, 2013). Researching the structure and policy of a 'green' Dutch housing corporation exposed the difficulties that housing corporations experience. In spite of the clear 2020 targets for the Dutch housing corporations, it is expected that they will not even come close. Nerden, advisor for the(very sustainable) housing corporation De Alliantie (The Alliance) said the following:

"*The expectation is that the targets will not be achieved. This is even being said out loud nowadays, that was not possible in the past. People were relieved that corporations admitted that they are not going to achieve the targets. People now speak about the realistic situation and there is an explanation for that*" (Nerden, personal communication, May 26, 2016).

De Alliantie has developed chain collaborations with building and construction companies called 'Sequent', which saves them a significant amount of money because of better-tuned processes and maintenance. The housing corporation uses this technique to improve the energetic value of their property, but the success remains limited. In spite of the current sustainability discourse that is characterized with a growing support for sustainability measures and new implementation techniques such as 'Sequent', the implementation of energy saving measures remains hard for a housing corporation. When De Alliantie chooses to improve the energy label of a house, the corporation charges less money to the home-owners than that they have invested. Besides this economic consequence, De Alliantie needs to have a support of more than 70% of the people living in the building to be permitted to implement sustainability measures. This results in the fact that the implementation of sustainability measures are very costly and could not be easily executed. Given that obliged housing corporations such as De Alliantie are not becoming sustainable fast enough, it is uncertain whether the energy transition will be made in time through all obliged and non-obliged actors. The corporation has established various collaborations with construction companies which has led to quicker and more efficient sustainability measures, it appears that the corporation successfully managed to integrate sustainability policy in its own policy. The corporation has to constructively work together with the residents of its property to make them more aware of the measures that could be executed. The corporation already informs the residents, and even sees it as a form of coaching. Investigating De Alliantie clearly showed the difficulties that can hinder the reduction of the energy consumption for the energy transition.

7.1.2 Energy production through a windmill farm

The Dutch government sees a lot of possibilities for renewable energy in the Netherlands; solar energy, wind energy, energy through water such as the tides and blue energy and geothermic energy (Rijksoverheid, 2016). Of these renewable energy sources, wind energy will have to become the largest renewable energy source for the Dutch society. Since the Dutch government does not have the capacity to find suitable locations for the turbines and it is not an option to randomly designate locations, the government decided to work with the provinces. The province of Friesland has to

generate 530,5 MW of wind energy in 2020. The current MW production is significantly lower, the province needs to locate and build new wind farms. Examining the allocation of the area 'Afsluitdijk' within the municipality of Súdwest-Fryslân, the complex relationships between province, municipality and civilians stood out.

At first, the province contacted its municipalities and asked them how they felt about wind turbines. It appeared that most of the municipalities within Friesland were against the plans for new wind turbines. The province itself has published a vision document that posed promising areas within the province. A few years later, the province assigned a suitable area for a wind farm in the 'Afsluitdijk' area, which was already recognized as a promising area in the vision document. The area is located in the municipality of Súdwest-Fryslân, which makes Súdwest-Fryslân the first point of contact for initiators that want to realize a wind farm in the available area. This gives the municipality of Súdwest-Fryslân certain power, but this power is very limited since the province could overrule the municipality with a local land-use plan. The municipality of Súdwest-Fryslân intended to speak out against the wind farm but chose not to. The municipality of Súdwest-Fryslân knew that the province was authorized to push through its own plans, and strategically decided that they would cooperate with the province to mitigate the consequences (Bijl, personal communication, May 10, 2017). Bijl, policy advisor for the municipality of Súdwest-Fryslân said the following:

"*Because of this we can still exert our influence, otherwise we could not. Now we will work together and we have to arrange the permits (..) We are also qualified to determine the environment report, so in that sense we do have a direct involvement*." (Bijl, personal communication, May 10, 2017)

Although the province individually selected the location, the characteristics of the wind farm appeared to be debatable. The province of Friesland composed a 'project' group and an 'environment advisory board'. The project group consists of the participating actors and discusses all the operations that need to be executed. The environment advisory board was founded by the province after the municipality indicated its concerns for the environment. This board includes the immediate neighbors, farmers and representatives of neighboring villages and advocacy groups. The initiators for the wind farm presented three different projects that variated in number and size of the wind mills, of which one alternative had to be picked. The province wanted to create as much support for the wind farm as possible and presented the alternatives to the environment advisory board. The board decided that they favor the alternative with the least number of windmills, considering the expected nuisance. The province mentioned that they want to act on the interests and preferences of the board. In spite of the hierarchic structure of power between the province, municipality and the residents, the wind farm will be placed through a cooperation between all

actors. The municipality indicated that they are pleased with their role in the process, just like they are pleased with the influence the civilians of the municipality can exert through the environment advisory board.

7.2 Belgium

7.2.1 Emission reduction projects

The Belgian federal government stated that lowering the energy consumption of all segments should remain their top priority. An increased energy-efficiency should be able to compensate the expected increase of electricity usage. The federal and regional governments, the industries and the citizens all play an essential role in increasing the energy-efficiency. The built environment/residential sector is responsible of 32,3 percent of the used energy and stays ahead of the industry which is responsible of 26,0%. The third sector is the transport sector which accounts for 21,6%. Educating and stimulating the society of their energy usage, the implementation of energy-efficient programs in the industries and tightening up the energy requirements of processes and goods should be effective measures to increase the energy-efficiency (Federale overheid, 2018). As previously mentioned, the built environment/residential sector is responsible for the largest share of the Belgian energy consumption. The reason that this sector is such energy consuming is because of the need of heat supply systems in every house and building. The federal and regional governments set goals for the energy-performance of buildings on basis of their EPC-factor. In short, the lower the better. The governments set the goal for residential buildings at an average EPC-value of 100 kwh/m2 for 2050, which is quite ambitious. Buildings of housing corporations will have to reach this average in 2040 (Federale overheid, 2018). Public buildings have to improve their energy consumption even more, they have to become energy neutral before 2040. Examining the possibilities of renovation and the measures to make buildings more energy-efficient in Antwerp showed the complexity of these projects. The municipality of Antwerp stated that they possess more than 600 buildings that contain over 20 apartments and which are over 20 years old (Antwerpenmorgen, n.d.) Furthermore possesses the municipality of Antwerp even a greater number of buildings with less apartments that are over 20 years old. The municipality reported that it absolutely necessary to adapt these buildings to the modern energetic requirements. However, the implementation of sustainable measures shave always been difficult because of divided ownerships of buildings. The municipality of Antwerp is connected to the European organization 'ACE-Retrofitting', short for Accelerating Condominium Energy Retrofitting, which focusses on the energy efficiency of buildings in Northwest-Europe. The

ACE-Retrofitting project is supposed to be the middleman between the building/apartment owners and construction companies/experts that can improve the energy efficiency, just as it should develop an operational framework that can support the construction experts (Interreg North-West Europe, 2018). Moreover, the municipality of Antwerp has organized a 'study day' to introduce other local governments but also regional governments the energy-saving tools that they developed (N-VA, 2018). The municipality of Antwerp wanted to inspire other cities to implement sustainable measures. The municipality of Antwerp expects to reduce its GHG emissions for 2030 with 50/55% (Herdt, personal communication, September 19, 2018). Decisive policies such as ACE-Retrofitting should help the municipality of Antwerp succeed in achieving their targets. The municipality of Antwerp stated that they keep close contact with its citizens and companies. They organized a stakeholder-day for both companies and citizens in which the municipality presented its sustainability targets. Although both some businesses and citizens questioned the implementation of this target, the open discussion clarified the municipal ambition (Herdt, personal communication, September 19, 2018).

7.2.2 Renewable energy projects

The amount of renewable energy sources in the heat and cold-production should be increased as soon as possible (Federale overheid, 2018). According to the Interfederal document, the Belgian society only uses renewable energy sources for the heat supply of buildings in 2050. Heat networks, geothermic energy and solar water heaters are examples of renewable technologies that should cater the Belgian heat supply. Renewable electricity could be generated through wind farms and solar parks. Despite the fact that Belgium works with a free energy market, the market is subject to national and regional influences. National and regional governments aspire to significantly increase the electricity production by wind turbines. Evaluating the policy of the Flemish region showed the willingness to act. The Flemish minister of Energy and the minister of Environment published new energy-document 'Windkracht 2020' in 2016. They both mentioned that the Flemish region required more wind turbines on a short notice, that the licensing procedure needed to be sped up and that the support of the public/citizens needed to increase (Tommelein, 2018). The Flemish Energy Agency examined the support for wind turbines and recognized an increase of support from 70% to 74% between 2015 and 2016 (Flemish Energy Agency, 2016, mentioned by Open Vld, 2016). However, the Flemish are less enthusiastic towards the allocation of wind turbines in their own municipality, 65% of the people were in favor of the wind turbines. This could mostly be derived of the concept of Not In My Backyard (NIMBY). This concept describes the expected negative influences of the wind

turbines that will affect the local residents. The Flemish minister Tommelein stated that informing the citizens and increasing the participation are essential to win support. The Flemish government seems to be informed quite well about the topic of wind energy within the region. Not only did the regional government create a clear plan for the future, they also examined the support of the people and know how to increase the support.

7.3 Sub conclusion chapter 6

After examining emission reduction projects and renewable energy projects in the Netherlands and Belgium, the processes of these projects can be recognized. Examining the Dutch housing corporation De Alliantie showed the complexity of energy-reduction projects. When even 'green' housing corporations such as the Alliantie indicate that the sustainability targets might not be achieved, the feasibility of the targets could be questioned. The chain collaborations that the housing corporation formed are clear examples of new processes that can positively affect the emission reduction projects. Examining the discussions between province and municipality about a wind farm showed the different interests of the different actors. In these discussions, listening to the other actors and making compromises appeared to be essential to be successful. The Belgian government mentioned that they want to improve their energy-efficiency. This appeared to be very hard to realize in the built environment, the new technique ACE-Retrofitting is going to help Belgian cities such as Antwerp in improving their energy consumption. The technique is supposed to connect people and function as a framework. Better communication and cooperation is key in these processes. Examining the role of wind energy In the Flemish region showed the growing support for this renewable energy source. The government stated that they value the contribution of citizens, informing the citizens and increasing the participation of citizens in wind energy projects appeared to be their goal. The process of wind energy is characterized with cooperation and consent.

Chapter 8. Conclusion

This chapter will answer the research question through the sub questions. Before the research question will be answered, the sub answers on the sub questions will be given.

8.1 Sub Questions

Sub question 1. *In which way has the international sustainability discourse developed?*

The concept of sustainability has its origin in the scientific world, major researches made the concept more accessible and well-known on the international level. The United Nations picked up on the concept of sustainability which made the concept appear in international policies and discussions. The international community of scientists, organizations and governments added increasingly more value on sustainability, which strengthened the position of sustainability in the discussions and policies.

Sub question 2. *In which way has the Dutch and Belgium sustainability discourse developed over the 2008-2018 time period?*

The sustainability discourses have changed significantly in the Netherlands and Belgium during the 2008-2018 period. The Netherlands has been progressive in the formation of societal coalitions and agreements for implementing sustainable measures. This is accompanied by the Dutch society that has become much more aware of climate change and the sustainable measures that could mitigate climate change. Citizens are increasingly more involved in sustainable measures and energy projects. The number of coalitions and actors that address climate change has increased in Belgium. The largest improvement can be seen in the society, in which Belgian citizens and companies have become in favor of sustainable measures. However, the formation of agreements and constructive cooperation's between governments appeared to be problematic. Although the federal and regional governments mentioned that they want to improve their cooperation, the implementation of sustainable measures has been affected. In both countries have the verbal and written discussions about sustainability shifted towards the implementation of sustainable measures, rather than on the importance of these measures. Sustainable actions, promotions and awareness all have increased in both countries.

Sub question 3. *How are the Dutch and Belgian energy-markets characterized and what are the ongoing developments that can be recognized??*

After examining the Dutch and Belgian energy markets, several characteristics of these markets can be recognized. There have been major developments on the Dutch energy market: small sustainable

energy companies are gaining a larger market share and hereby make the energy-market more sustainable. However, the Dutch energy producers that have a large market share have showed their willingness to improve their sustainable policies. The Belgian energy market is currently under a lot of pressure because of the anticipated abandonment of nuclear energy. However, the large Belgian energy providers are implementing renewable energy projects on a large scale. The consensus is that the market share of renewable energy needs to grow, only the replacement of nuclear energy might be of fossil fuels. Both energy-markets are actively changing their energy supply, which is linked to the changed sustainability discourse in both countries.

Sub question 4. *How are the Dutch and Belgian energy projects that contribute to the energy transitions facilitated?*

After examining emission reduction projects and renewable energy projects in the Netherlands and Belgium, the thing that stands out the most is the value that actors give to cooperation. The Dutch energy projects are promising for the future, new techniques and discussion-formats will guide energy saving projects and renewable energy projects. The Belgian energy projects emphasize the cooperation between different actors. The technique of ACE-Retrofitting could be implemented in all cities and villages instead of a number of large cities. The renewable energy projects are characterized with the need for support by local residents.

8.2 Main conclusion

The research question of this thesis is as follows: '*To what extent are the energy transitions in the Netherlands and Belgium influenced by the current sustainability discourse*?'. This thesis was under the assumption that the sustainability discourse would affect the policy and implementation of the energy transitions. Examining the image of reality, the value that people give to sustainability and the way people write and talk about sustainability has displayed the sustainability discourse (Foucault, 1971; Hajer, 2006). Now that the research has been completed, it can be stated that the Dutch and Belgian sustainability discourses indeed exert their influences on the energy transitions. It should be immediately mentioned that the influences of the sustainability discourses are complex, and that the different aspects of their influence can range between minor and major. The sustainability discourse has been examined through the three dimensions that have been formulated on the basis of Grant et al., (2004) and Gupta (2010). In both the Netherlands and Belgium have the sustainability discourses changed over time, as can be seen in paragraph 5.1.4 and 5.2.4. Examining the Dutch actors such as

the national government, the municipality of Nijmegen and Nuon displayed the increased importance of sustainability in their policies. Examining the formation of coalitions, agreements and instruments that address sustainable measures clearly showed the increased importance. Examining the Belgian actors, which were the federal government, the municipality of Antwerp and the municipality of Bruges, has made clear that sustainability has become more important in Belgian policies. This interest has become further institutionalized in both countries. Since these actors of which sustainability has altered their policies will have to be part of the energy transition, it can be expected that these actors will be positive towards sustainable measures to successfully implement the energy transition. Many actors that will have to participate in the Dutch and Belgian energy transitions have been subject to the dominant sustainability discourse and have been changed by this dominant discourse, which will ultimately affect the proposed energy transitions. The dominant sustainability discourse has also affected both energy markets that will have to partially execute the energy transitions. The research showed the changed behavior of energy producers in both countries. The energy producers will have to make their production more sustainable by set targets, just as they are expected by society to take their responsibility and to improve their sustainability. Energy producers in both countries are already implementing renewable energy projects and the expectation is that more will follow suit. Likewise, actors have started to think that the energy consumption should be reduced. Corporations and organizations in both countries are making use of new techniques such as chain collaborations and ACE-Retrofitting, which are able to improve the energy efficiency, as part of the energy-saving part of the transitions. These techniques and projects are characterized by a high degree of cooperation. Since the successful execution of the energy transition will require a high degree of cooperation, the current trend regarding cooperation is promising for the implementation of the energy transition. The dominant sustainability discourse has made the relevant actors in the Netherlands and Belgium more willing to execute the energy transition, which will help the implementation of the energy transition in both countries.

Chapter 9. Discussion and Recommendations

9.1 Discussion

This thesis describes the Dutch and Belgian sustainability discourses through quotes from the interviews and relevant data from a literature study, which made the research transparent and veracious. The quotes that are used in this thesis are linked with the context, which strengthens the message of their purpose. Likewise, the readers of this thesis can evaluate the meaning of the quotes by themselves, which increases the transparency of this thesis. Although this research tried to include the relevant actors which could expose the sustainability discourse, it cannot be determined whether this thesis fully exposed the sustainability discourse. The researcher decided to work with a three dimensional framework in order to be able to expose the sustainability discourse. By using this framework, the researcher deliberately excluded certain phenomena that are applicable to the sustainability discourse. It could be said that this has made the description of the discourse less comprehensive. But by delimiting the research can the researcher work in a structured way, operationalize the research and achieve a certain degree of trustworthiness by working through the set dimensions. The dimensions are proven to be relevant in the literature and provide a clear structure for this research. Examining the energy markets of the Netherlands and Belgian appeared to be difficult since documents that address the energy market through words and not through numbers are scarce. What stood out in this research was the number of municipalities and companies that did not want to be part of this research, which has very likely to do with their policy that would not be regarded as excellent. Although this research does not intend to judge the actors for their actions, behavior that is contradictory to the scientific assumption that climate change should be mitigated, is seen as unwise. The inclusion of actors that are progressive in their sustainability policy and the exclusion of (some) actors that are lacking in their sustainable policy could have led to a skewed image of the sustainability discourse and the energy markets. However, the researcher tried to use policy documents to correctly display the situations. Nevertheless, it is mischance that research turned out to lack certain actors. The researcher might could have done things differently, in order to acquire the originally intended data. This lies with the researcher, and this should be recognized in this way as well. The researcher could learn from this, and make sure that a problem like this will not happen again.

9.2 Recommendations

This research showed that actors in both countries are increasingly more willing to implement sustainable measures. Belgium in particular still has difficulties with converting its willingness into effective policies and cooperations. The complex distribution of power and tasks between the federal and regional governments hinder effective sustainability policy. In order to divide the sustainability targets of Belgium successfully, better cooperation between the federal and regional governments is needed. The three regional governments and the federal government can continue to work through this structure and try to improve the efficiency of their debates, or it might be wise to appoint a team of specialists that will have to address the consequences of the sustainability targets for the whole of This research showed and described the influence of the sustainability discourse on the energy transitions, it did not in particular examine the difficulties that partly hinder the transitions. A follow-up study about these difficulties could expose the root of these difficulties and help actors to overcome them. By recognizing the influence of the sustainability discourse on the Dutch and Belgian energy transitions, it is possible to expect a certain influence on the energy transition of other countries. However, it should be taken into account that the generalizability of a discourse analysis is quite low.

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Appendices

Interview A. Dutch government

Interview with Peter Schmeitz, programleader for the energy transition for the Dutch government

Amsman: Kunt u eerst vertellen wie u bent en welke functie u heeft?

Schmeitz: Ik ben Peter Schmeitz en ik ben programmaleider energieke samenleving. Dat is een team dat zich bezig houdt met de maatschappelijke en de ruimtelijke kant en inrichting van de energietransitie hier bij het ministerie van EZK.

Amsman: Waar houdt uw afdeling zich vooral mee bezig?

Schmeitz: Wij zijn nu bezig met het opstellen van het klimaatakkoord met de maatschappelijke partners. Daarvoor zitten er ook decentrale overheden aan tafel. Daar zijn we aan het verkennen wat precies de opgave is en wat we kunnen doen op zee en wat we nog moeten doen op land met wind/zon en biomassa. Hier kunnen wij ruimtelijke principes bij verzinnen en zorgen dat je het op een ruimtelijk efficiënte manier doet. Zoals de wind op zee die enorme hoeveelheden elektriciteit oplevert dat je dat gebruikt bij industriële processen bij de energieclusters aan de Noordzee zoals Rotterdam en Tatasteel. Zodat er geen lange kabels van Doetinchem hoeven te worden getrokken. Ons werk zit nog vooral in de opgave; de principes, de uitgangspunten en ook nog de verschillende scenario's. Als we de hoofdlijnen van het klimaatakkoord vast hebben staan in de zomer dan geven we dat door aan het traject van de nationale omgevingsvisie (NOVI). Vervolgens moet dit door worden gevoerd in de provinciale en gemeentelijke omgevingsplannen. Momenteel is er nog veel verkenning.

Amsman: Jullie werken voor het verduurzamen van de samenleving maar hebben jullie ook een vast begrip voor duurzaamheid waar mee wordt gewerkt?

Schmeitz: Wij waren eerst het miniserie van EZK, toen kwam landbouw erbij. Toen werd het begrip van duurzaamheid breder door de landbouw, natuur, voedsel en vraagstukken. People planet profit. Nu landbouw weer is afgesplitst maken we vooral klimaatbeleid. De energietransitie staat in het licht van het klimaatbeleid. Dus als je het nu over duurzaamheid hebt dan hebben we het vooral over CO_2 reductie te sturen. Tegelijkertijd zijn we ook bezig met trajecten als circulaire economie die veel breder zijn, maar het gaat vooral om de CO2 reductie.

Amsman: Momenteel ligt de focus dus op CO_2.. Hoe is het begrip duurzaamheid veranderd over de jaren heen?

Schmeitz: Tot de aardbevingen in Groningen begonnen was iedereen trots op de NAM en toen was energie geen maatschappelijk issue. Toen waren we vooral bezig met de energiemarkt en de leveringszekerheid. Duurzaamheid kwam toen wel op, als zijnde we moeten overstappen naar hernieuwbare energiebronnen. Toen kwamen de aardbevingen in Groningen en dat heeft hier ook voor een aardbeving gezorgd omdat we er toen achter kwamen dat het beleid radicaal op de schop moest. Toen hebben we beseft dat we beleid moesten maken met de maatschappelijke partners. Langzaam maar zeker stond de transitie van fossiele brandstoffen naar duurzame brandstoffen centraal in het beleid. Met het energieakkoord van 2013 is dat begonnen.

Amsman: Denkt u dat deze verschuiving vanuit de maatschappij is gekomen of vanuit de overheid?

Schmeitz: Dat we meer naar duurzaamheid moesten was deels door maatschappelijke druk, deel klimaatakkoord, deels doelstellingen en verplichtingen vanuit Brussel. Echt het kijken naar CO2 reductie is denk ik een resultaat van het klimaatakkoord Parijs wat moet doorwerken in hernieuwd EU beleid.

Idealiter kunnen we de hele energieopwekking op zee bereiken, maar dat lukt niet want je hebt de scheepvaart, visserij, natuurgebieden en andere dingen. Het is wel al goedkoper geworden, tegenwoordig is het zelfs rendabel zonder subsidie. Maar we hebben ook opwekking op land nodig. In het klimaatakkoord zie je dat de schattingen en de wensen en de eisen nog behoorlijk uit elkaar lopen. Sommigen zeggen dat wind op land zoveel weerstand op roept dat men er beter mee kan stoppen. Tegelijkertijd denk ik dat wanneer je hier mee stopt dat de doelen niet meer haalbaar zijn. Al met al ziet het er naar uit dat we nog wel zonnepanelen en windmolens op land erbij krijgen.

Amsman: Verwacht u dat er vanuit de maatschappij eigen initiatieven komen betreffende de energietransitie?

Schmeitz: Ja voor een deel is dit een autonome ontwikkeling, er is een club, Ode Decentraal, dat is de koepel van de energiecorporaties. Zij hebben de ambitie om in 2025 één miljoen leden te hebben voor energiecorporaties. Dat is zeer ambitieus. Aangezien zij een uitstralingseffect hebben van vijf tot tien mensen om je heen, dan heb je al bijna de hele samenleving te pakken. Dit kunnen ze niet alleen en ze hebben dus steun van ons nodig. Tegelijkertijd moeten wij de randvoorwaarden scheppen. Als je nu kijkt naar zonnepanelen op het dak dan is daar nog een lange terugbetalingstijd voor. Men denkt dan dat dat geld beter ergens anders aan besteed kan worden. Voor een praktisch probleem zoals het past niet op het dak, moet een juist kader worden gevonden. Denemarken heeft een heel laag corporatief model, die stellen bij windparken een bepaalde verplichting van mede eigenaarschap van omwonenden. De bewoners moeten dan voor een bepaald percentage eigenaar zijn. Hiermee wordt het draagvlak aanzienlijk vergroot. Zulke voorbeelden zijn we aan het verkennen. Dit is echt een nieuwe opgave voor ons land waarbij we nog kunnen leren van andere landen.

Amsman: Participatie leidt vaak tot een groter draagvlak en doelbehaling.

Schmeitz: Precies, burgerparticipatie bij projecten werkt wanneer ze wel nog kunnen meekijken. Bij financiële participatie zie je ook dat de betrokkenheid omhoog gaat. Bij huizen die nog draaien op aardgas moeten de eigenaren echt zelf een fors bedrag investeren. De Denen hebben veel ervaring met collectieve warmteplannen. De Deense corporaties willen de Nederlandse corporaties helpen met hun geld en kennis om hier te investeren. Voor een deel is de ontwikkeling ook afkomstig uit het buitenland.

Amsman: Merkt uw afdeling dat de discussie over duurzaamheid en klimaatverandering is veranderd?

Schmeitz: Ja, je ziet dat het burgerperspectief langzamerhand hoger in het vaandel komt te staan.

Amsman: Heeft de kijk op duurzaamheid tot een nieuw soort beleid geleid?

Schmeitz: Met het klimaatakkoord kiezen we ervoor om afspraken te maken met de maatschappij. In het najaar werken we de afspraken van het klimaatakkoord verder uit in programma’s. vanaf 1 januari van 2019 worden die vervolgens uitgevoerd. Wij zien de energietransitie niet als een taak voor de rijksoverheid maar voor de hele maatschappij, zowel de burgers, het bedrijfsleven, de overheden, kennisinstellingen en banken.

Amsman: Hoe moeten al die spelers dit samen aanpakken? Wie neemt het voortouw?

Schmeitz: Wij hebben een dubbele rol. We zijn zowel het onafhankelijk secretariaat en zitten we aan tafel als één van de spelers. Dat is soms lastig om de rollen gescheiden te houden.

Amsman: Heeft u het gevoel dat de andere overheidsafdelingen het belang van de energietransitie en verduurzamen ook inzien?

Schmeitz: Sinds het Parijs akkoord merk ik dat men het belangrijker gaat vinden. In het vorige kabinet waren er nog wel discussies over het verduurzamen. De beleidsdoelen zijn nu behoorlijk gefocust op verandering en zijn er minder discussies over het belang van verduurzamen.

Amsman: Wilt u zelf nog iets toelichten over uw kijk op de Nederlandse energietransitie?

Schmeitz: Ik denk dat dit de grootste opgave wordt die Nederland de komende decennia op haar bord heeft liggen. Tegelijkertijd is het een opgave waar heel veel andere issues op kunnen meeliften. Het armoede probleem, sociale cohesie en economische ontwikkelingen kunnen allemaal meeliften op de veranderingen die gemaakt moeten worden. Zo kan je nieuwe businessmodellen verzinnen om energieopbrengsten in de regio of in de stad te houden, waarbij de energietransitie de trigger is. Ik denk dat de transitie de motor kan zijn voor verandering en democratisering. Ik zie het als een kans om als Nederland wereldwijd voorop te lopen, via ons poldermodel kunnen wij met innovatieve bedrijven voor innovaties komen die in andere landen niet los komen.

Interview B. Nijmegen

Interview with Erik Maessen, advisor for the municipality of Nijmegen

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Amsman: Kunt u mij eerst vertellen wie u bent en welke functie u heeft?

M: Ik ben Erik Maesen en ik hou bij bezig met de energietransitie, voornamelijk met de wijkaanpak. Het college van BW heeft vorig jaar drie pilotwijken aangewezen war we gaan starten met het proces. Samen met de bewonersgaan we een warmte plan op stellen. Daar zijn we nu mee bezig in Bottendaal en Hengstdal. Zwanenveld is ook nog aangewezen maar dat is een wijk met een ander profiel dus dat vraagt ook een ander e aanpak. We zijn nu hard bezig met de aanvraag voor bzk, voor het versnellen van aardgasvrije wijken waar geld voor beschikbaar is gesteld. Daar willen we Zwanenveld ook voor aanmelden als wijk. Dan kunnen wij versneld het warmtenetwerk uitrollen.

A: Heeft de gemeente een vaste doelstelling op energiegebied?

M: Wij hebben in 2013 als een energieambitie uitgebracht. Daarin staat dat wij in 2045 een energie neutrale stad willen zijn.

A:Hoe wilt de gemeente dat realiseren?

M: Dit willen wij realiseren door ongeveer de helft van de gebuikte energie te gaan besparen, en de andere helft moet duurzaam opgewekt worden. Het liefste in de regio zelf. Afgelopen mandag is de warmtevisie openbaar geworden die door het college is vastgesteld. Daarin wordt op de middellange termijn aangegeven welke wijken wij als gemeente willen aanpakken. Dat zijn Dukenburg, hatert, Hengstdal, Bottemdaal en Heyendaal

A: Waarvan wordt de warmte opgewekt?

Nu van de ARM. Afvalverwerkingscentrale. We zijn momenteel bezig met een onderzoek naar geothermie en wat hier de opties van zijn. Maar hier gaan zeker nog jaren ver heen voor dit gebruikt kan worden. Dit gaat echter wel samen met de provincie en het Rijk, en moeten er veel vergunningen verstrekt worden.

A: Heeft de gemeente Nijmegen een definitie voor duurzaamheid?

M: Ja maar deze staat duidelijk op de site. 5 pijlers op de site.

A: Is het concept duurzaamheid de laatste jaren voor uw gevoel veranderd binnen de gemeente?

M: Ja. Er is langzaam maar zeker een besef ontstaan binnen de gemeente dat duurzaamheid alle beleidsvelden raakt. En dat het geen apart veld zou moeten zijn. In het begin was het dit wel, om men het aan te jagen tot dat dat niet meer nodig is. Dat besef zie ik groeien bij mijn collega's.

A: De gemeente Nijmegen in Green Capital geworden van Europa. Hoe is dit denkt u gekomen?

M: Ik denk dat dit aan de hele stad te danken is. De reden dat wij gewonnen hebben is dat wij al jarenlang een consistent beleid hebben op dit vlak. Maar er zijn heel veel instellingen, bewoners en actiegroepen binnen Nijmegen die bezig zijn met duurzaamheid. Onderling wordt ook veel samengewerkt, daardoor hebben wij denk ik gewonnen.

A: Kunt u mij meer vertellen over de samenwerking?

M: Zo liggen er flinke prestatieafspraken bij de woningcorporaties. Zij zijn druk bezig met het verbeteren van de woningen door isoleren en warmtebronnen in te zetten. De woningcorporaties amen hebben een routekaart ontwikkeld, wat uniek is in Nederland. Ook wordt er op het gebied van fietsen samengewerkt met de fietsersbond en andere instanties. Wij leggen ook veel fietsnetten aan in de hele regio, onder andere ook snelfietsroutes. Op het gebied van energie is er met alle regiogemeentes afgelopen jaar een nieuwe aanbesteding opgesteld. De elektriciteitsleverancier moet de komende vijf jaar puur duurzame energie leveren aan al deze regiogemeenten. Dit betreft d energie die de gemeentehuizen gebruiken, niet de hele stad. Deze energie moet in de regio zijn opgewekt, dit is een unieke aanbesteding. Dit moet deels worden opgewekt uit zonnepanelen en biomassa.

A: In hoeverre kijkt de gemeente naar initiatieven van burgers?

M: Ik zie steeds meer initiatieven van burgers van de grond komen binnen de gemeente. Ik ga ook bijna wekelijks op bezoek bij burgers, en proberen waar mogelijk de burgers te ondersteunen. Wij hebben helaas te weinig capaciteit om dit volledig te kunnen doen. Het is niet zozeer dat wij subsidies willen verstrekken aan de initiatieven, enkel wanneer het echt een innovatief idee is willen wij kijken naar een financiële ondersteuning. Wij willen de burgers en initiatieven graag helpen door verbanden te leggen, mensen met elkaar in contact brengen en kennis delen.

M: Het Gelders energieakkoord is in het leven geroepen om de energietransitie te begeleiden. Op dit moment is er een regionale energiestrategie vanuit de provincie samen met de regiogemeentes opgesteld daarin staat aangegeven wat wij de komende jaren aan opwekking moeten gaan realiseren en wij zijn nu bezig om dat om te vormen in een regionale energie strategie. De landelijke overheid heeft aangegeven dat zij de energiestrategie op regionaal niveau aangestuurd willen hebben. Dus daar heeft de provincie een taak in. Er zijn gemeentes geweest in Gelderland die geen windmolens willen plaatsen, daar is de provincie wel mee bezig. Nijmegen wil zelf windmolens

A: Merkt u buiten uw werk dat duurzaamheid is veranderd?

M: Wat mij opviel toen ik net begon met mijn baan is dat ik op een bewonersavond moest verdedigen waarom duurzaamheid van belang is. Maar naar mate het belang vaker in het nieuws is gekomen, en ook de aardbevingen in Groningen, is de discussie erg afgenomen. De discussie gaat nu over het hoe en wat, en wie de rekening voorgeschoteld krijgt.

Interview C. Súdwest-Fryslân

Interview with Lucia van der Bijl, advisor for the municipality of Súdwest-Fryslân.

Amsman: Zou u mij eerst kunnen vertellen wie u bent en welke functie u heeft?

Bijl: Ik ben Lucia van der Bijl en ik ben beleidsadviseur ruimtelijke ordening. Ik hou mij bezig met alles wat met ruimtelijke ordening te maken heeft. Van begeleiden van bestemmingsplannen, het zelf schrijven van bestemmingsplannen en het opstellen van beleid.

A: Hoe is het contact met de provincie over windmolenbeleid geweest in het verleden tot nu?

B: De provincie is een hoger overheidsorgaan dus die beslist uiteindelijk een groot deel van het beleid. De gemeente is wel vrij in het formuleren van beleid mits het past binnen de grenzen die door de provincie zijn aangegeven. Wij hebben wel eigen beleid gehad waarin wij locaties hadden uitgekozen waar eventueel een paar windmolens konden staan, geen grote parken maar enkele molens. Dat heeft de provincie destijds op slot gezet.

A: Hoe is er met jullie gecommuniceerd over de plannen voor een windmolenpark bij de kop van de afsluitdijk?

B: Eigenlijk is dit niet overlegd, zo ervaren de raad en het college het tenminste, het is meer medegedeeld. Jaren geleden hebben ze wel een principebesluit genomen dat er mogelijkheden zijn voor een eventueel windpark. Daarna is het jarenlang stil gebleven en toen kwam de provincie van de ene op andere dag dat ze een plan toch wouden doorvoeren. Dat had de raad niet verwacht. Maar de provincie heeft zich geconformeerd met een opgave van 530,5 MW te realiseren in 2020, en in dat kader is dit park nodig. Dan heb je als gemeente niet zoveel mogelijkheden.

A: Kan de gemeente wel bepalen waar de windmolens vervolgens geplaatst moeten worden?

B: Nee, het is zo dat de provincie de locatie heeft bepaald. En wij als gemeente waren daar helemaal niet blij mee en ik zal uitleggen waarom. Op zich zijn wij als gemeente helemaal niet tegen windmolens, maar er wordt nu in het IJsselmeer in ons grondgebied al een windpark gerealiseerd, dat is windpark Fryslân. Dat wordt een heel groot windpark van 316 megawatt, dat zijn 89 windmolens die daar komen. Daar hebben wij als gemeente helemaal geen invloed op gehad, de volgende stap was dat de provincie kwam met een plan op de kop van de afsluitdijk van 36 MW. Waarop wij dus ook helemaal geen keuze hadden om mee te beslissen waar wij dat graag wilden hebben. Toen is er een voorstel geweest van het college om zich tegen het windpark uit te spreken vanwege de eenvoudige reden dat wij als gemeente totaal geen invloed hebben met de kenmerken wat met het windpark te maken heeft. Dat is wat hun heel erg frustreert en daarom hebben zij gezegd: “Wij zijn tegen het windpark maar we gaan wel met de provincie om de tafel om het plan wel tot een zo goed mogelijk einde te kunnen brengen”. De achterliggende reden daarvan is dat wanneer je als gemeente je kop in het zand steekt en ook niet meepraat dan gaat alles over je hoofd heen, en wordt alles voor je beslist. En nu kunnen wij misschien nog enigszins wat invloed

uitoefenen.

A: Ik begreep dat jullie vertegenwoordigd zijn in bepaalde groepen, welke groepen zijn dat?

B: Er is voor dit windpark een projectgroep samengesteld, en daarin nemen wij deel met in ieder geval twee collega's. In de projectgroep wordt eigenlijk alles besproken van begin tot eind. Er wordt dus een provinciaal inpassingsplan gemaakt en geen bestemmingsplan omdat het een provinciaal belang is. Als onderleggers daarvan heb je MER nodig en nog andere onderzoeken en daar kunnen wij in ieder geval in meepraten en kijken of de inhoud van de stukken goed zijn.

A: Heeft de aanwezigheid van de projectgroep een invloed op de medewerking van jullie als gemeente?

B: Ja als het er niet was dan zou het een stuk moeilijker zijn ja. Nu kunnen we nog een invloed uitoefenen en anders niet. Nu hebben we dat we wel meewerken en dat onze gemeente de omgevingsvergunning voor rekening neemt en dat betekent bouwen en milieu. En daarmee vloeit in door dat wij medebevoegd zijn het MER vast te stellen. Dus in die zin hebben we wel een directe betrokkenheid.

A: Als er geen projectgroep zou zijn wat dan?

B: Nee ik denk niet dat wij zouden dwarsliggen als er geen groep zou zijn. Het contact van ons als gemeente is over het algemeen vrij goed met de provincie. Dat het besluit werd gemaakt voor een windpark daar waren wij niet blij mee, maar dat is maar één besluit. Als we geen invloed zouden kunnen uitoefenen via een projectgroep dan was het misschien anders geweest, maar dat kan ik nu ook niet zeggen want daar is geen sprake van. Maar ik denk dat de kans heel klein is dat wij als gemeente dwars zouden liggen en al het mogelijke doen om het tegen te houden. Wij denken dat dat geen kans van slagen heeft en dat het park toch wordt doorgedrukt. En je hebt de provincie voor meer dingen nodig, het is ook een politiek verhaal waar je rekening mee moet houden. Dit is mijn mening, ik weet niet wat de raad en college vinden maar ik verwacht dat zij niet zouden dwarsliggen.

A: Heeft de gemeente een voorkeur voor de fysieke kenmerken van de molens die moeten komen in het park bij de kop van de afsluitdijk?

B: Ja, er waren drie variaties. Eén variatie van 18 molens, één met 11 molens en één met 9 molens en hoe minder molens hoe hoger ze worden. Wat wij als gemeente heel belangrijk vinden is wat de omgeving ervan vindt, dat heeft dan ook onze voorkeur. Ook kijken we naar wat het minste schade zal opleveren aan de natuur en andere aspecten. Wij als gemeente beogen variant C, met 9 molens, en die is ook gekozen door de omgevingsadviesraad. De provincie en de initiatiefnemers waren hier ook blij mee

A: Dat kon dus worden geuit in de projectgroep, zit de gemeente ook in de omgevingsadviesraad?

B: Nee wij als gemeente zitten niet in de omgevingsadviesraad. Dat hebben wij heel bewust gedaan omdat we vinden dat dat voor de directe omgeving is. Dan kan je denken aan boerderijen en vertegenwoordigers van belangengroeperingen.

A: Hoe wordt er vervolgens verder gewerkt met variatie C?

B: Dat park heet Nij Hiddum-Houw en dat bestaat nu uit tien molens, maar deze tien molens zijn zo klein en hebben zo'n kleine opbrengst, dat als daar 36 MW netto voor terug moet komen dan

moeten er dingen worden veranderd. Hoe groter de molen wordt hoe meer afstand je moet creëren tussen de molens. Het zoekgebied tussen de molens is groter dan het huidige park. Er is een zoekgebied gedefinieerd bij de Kop van de afsluitdijk. De exacte locatie zal vervolgens op voorstel van de initiatiefnemers komen. Je moet grondposities hebben, er moet aan allerlei eisen worden voldaan, op zich heb je niet veel vrijheid.
Binnen het zoekgebied moet je je aan bepaalde regels houden maar vervolgens heb je niet veel invloed op waar ze vervolgens komen te staan.

A: Is de gemeente tevreden met hoeveel invloed jullie kunnen uitoefenen?

B: Voor zover wij invloed kunnen uitoefen dan is men daar wel tevreden over.

A: Hebben jullie het gevoel dat de provincie jullie als een gelijkwaardige partner ziet of andersom dat zij op jullie neerkijken?

B: Dat gevoel is er wel bij de gemeenteraad, dat zij hun plannen op ons projecteren. Maar dat komt puur doordat wij geen stem hebben gehad over of de molens wel of niet komen.

A: Hoe vaak hebben jullie contact met de provincie?

B: We hebben wekelijks contact met de provincie over het windmolenpark. 1 keer in de twee weken is er een projectgroep, en in de tussentijd is er veel contact over de stukken die je moet beoordelen. Afgelopen dinsdag heeft het college ingestemd met de voorkeursvariant en daar heeft de provincie ook een presentatie gegeven voor ons college, al die voorbereidingen en overleg worden continu gemaakt.

Interview E. De Alliantie.

Interview with Carlo Nerden, advisor for De Alliantie

Amsman: Kunt u mij als eerst vertellen wie u bent en welke functie u bij De Alliantie heeft?

Nerden: Ik ben Cardo Nerden en ik ben adviseur kennis van de afdeling vastgoed en onderhoud. Team kennis is een groep adviseurs die gaan over kwaliteit. Mijn specialisme is energie en duurzaamheid

Amsman: Hoe pakken jullie de duurzaamheid aan bij nieuwbouw?

Nerden: Bij nieuwbouw zijn er vele vormen. Soms kopen wij turn key, dan zijn de woningen al gebouwd, en soms ontwikkelen wij zelf. Wij zijn natuurlijk gehouden aan wetten en regels dus dat betekent dat wij ons houden aan het bouwbesluit. En omdat wij een behoudende en zuinige corporatie zijn doen wij ook niet aan toeters en bellen. Wij moeten bouwen voor een prijs die wij terug moeten kunnen verdienen aan de huur. Vroeger deden we dat door grote projecten te ontwikkelen en daarvan een deel te verkopen om de kosten van de onrendabele top te dekken. Maar dat mag bijna niet meer met de nieuwe woningwet en het scheiden van daeb en niet-daeb. We ontwikkelen sociale woningbouw voor een prijs die we terug kunnen verdienen aan de huur.

Amsman: Bij het bouwen en renoveren werken jullie dus aan de hand van het bouwbesluit?

Nerden: Ja wij houden ons aan het bouwbesluit. De energiezuinigheidseisen worden steeds strenger, voornamelijk de afgelopen jaren kende een behoorlijke versnelling, we gaan bijna naar

energieneutraal bouwen. Daar bereiden wij ons wel op voor. We experimenteren wel met hoe wij om moeten gaan met het energieneutraal bouwen in de toekomst.

Wij sturen op de EPC waarde, dat staat voor de energie prestatie coëfficiënt. Deze waarde moet voldoen aan de wettelijke norm, die is momenteel 0,4. Die gaat naar 0.0 in 2020 en daarbij komen ook nog eisen uit Europa waardoor we bouwen met een maximaal energieverbruik per vierkante meter. Ook moet de woning zelf nog energie gaan opwekken

Amsman: En hoe verbeteren jullie de duurzaamheid van de bestaande bouw?

Nerden: Bij de bestaande bouw heeft de sector, verenigd in Aedes, de afspraak in het kader van een energie akkoord en die afspraak houdt in dat de sector ervoor zorgt dat de bestaande woningenvoorraad in 1 januari 2021 een gemiddelde energie index heeft van 1.25, oftewel label B. Toch bestaat hier enkele verwarring over omdat vroeger de labels A tot en met G werd gebruikt terwijl de woningcorporaties tegenwoordig een voorschrift gebruiken waarin met een index getal gewerkt wordt. 1.25 hoort in de reeks 1.21 tot 1.4 en dat is een equivalent van label B.

Amsman: Via welke technieken komen jullie tot een label b bij het bouwen bij het renoveren?

Nerden: Renovaties doen wij als de kwaliteit echt slecht is en er heel veel moet gebeuren om de kwaliteit te verbeteren. Bijvoorbeeld funderingsherstel. Bij renovatie plaatsen wij mensen uit, hierdoor is het renoveren een hele dure wijze om je woningen te verbeteren. Want je moet andere woningen beschikbaar hebben, je moet mensen verhuisvergoeding geven, ook ontvang je tijdelijk geen huur. Dit doen wij dan ook steeds minder tegenwoordig. De andere stroom is het verduurzamen en verbeteren. Dit doen wij met een ketensamenwerking, genaamd E-Sequent. E is voor energie en Sequent voor het stroomlijnen en het proces van het verduurzamen in het elkaar laten overlopen. Hierdoor is er een enorme besparing bij de bouw, en voornamelijk ook efficiënter.

Amsman: Wie beslist of er wordt gerenoveerd?

Nerden: Daar hebben we de afdeling programma voor. Wij doen de dataverzameling voor de energielabeling, en daar hebben we een database voor met de energetische kenmerken van de woning. We proberen de woningen met de slechtste labels als eerste aan de beurt te laten komen. Je brengt de G labels naar B.

Amsman: Momenteel is jullie gemiddelde label D. Gaan jullie het redden om de woningvoorraad een gemiddelde van B te geven in 2020?

Nerden: Ik denk ook niet dat wij dat gaan halen. Dit heeft wel zijn redenen. Een woningcorporatie moet ook een strategisch voorraad beleid voeren. Je moet je voorstellen dat wij het onderhoud, verduurzaming en verbetering uit de lopende kasstromen halen. We zijn een ontwikkelende woningcorporatie, wij bouwen nieuw, wij voegen nieuw bezit toe aan onze voorraad. Daarvoor moeten we oud bezit verkopen. Om dat te mogen doen met je je complexen splitsen, dat is wettelijk verplicht. Als het gebouw niet verplitst is kan je het alleen in zijn geheel verkopen en niet per losse woning in het gebouw. Het splitsen kost veel geld en je moet aan veel voorwaarden voldoen en je mag ook geen bewoond bezit verkopen, dat mogen corporaties niet. Alleen leeg bezit. Dus wij splitsen complexen en dan beginnen wij te verkopen maar je kan je voorstellen dat woningen die op de verkooplijst staan die gaan we niet meer grootscheeps renoveren. Je hebt daar gemengd bezit en je zit met een vereniging van eigenaren die dat ook moeten willen. Het gemengde bezit gaan wij daardoor niet renoveren naar label B.

Amsman: Gaan de andere woningcorporaties wel de doelstelling halen denkt u?

Nerden: De verwachting is dat het niet gehaald gaat worden. Dit wordt tegenwoordig zelfs hard gezegd, vroeger nog niet. Men was heel opgelucht dat iemand toegaf dat ze het niet gingen halen. Nu wordt uitgesproken wat de realiteit is, en daar is ook en verklaring voor. Uiteindelijk is het zo dat er een investering van 100 miljard nodig is om al het gezamenlijk corporatiebezit naar label B te brengen.

En de corporaties investeren maar gezamenlijk 4 miljard per jaar. Wij doen onze investeringen uit onze kasstroom en gaan geen grote leningen aan omdat we gezond willen blijven. Je investeert maar je krijgt dat ook weer terug. We zijn een vastgoedbedrijf en wij moeten dan ook een hele lange horizon hebben.

Amsman: Hebben jullie een lijstje technieken bij de alliantie waarbij gekozen wordt bij renoveren?

Nerden: Bij nieuwbouw is het het bouwbesluit. Dan heb je thermische waarden. Het dak moet een rc waarde hebben van 6. De glaswaarde moet voldoen aan een hu waarde van 1,1. Dit is een warmtedoorgangscoëfficiënt. Dat staat allemaal in het bouwbesluit. Wanneer je dan alsnog je EPC niet haalt kan je besluiten om zonnepanelen op je dak te leggen want dat helpt, dat is wel de praktijk. Want op een gegeven moment wordt het thermisch isoleren zo duur dat je beter kunt overgaan op compenseren. Wanner je de EPC niet haalt kan je gewoon zonnepanelen op het dak leggen.

Amsman: en bij renovatie?

Nerden: Voor renovatie gaan wij uit van een warme jas en een goed hart. Thermische isolatie (hart) de vloer, gevels als het dak, beglazing minimaal dubbelglas, als we vervangen is het hrplusplus glas. Het is noodzakelijk dat wij onze waarden halen. Verder worden de woningen voorzien van goeie hr 107 ketels. Isoleren betekent ventileren want bij isoleren moet je ook ventileren anders krijg je condens problemen. Er wordt dus ook een goeie ventilatie-inrichting aangebracht.

Dat is het palet waar wij uit kiezen. De gemeente Amsterdam wil graag prestatieafspraken maken met de sector dat wij onze voorraad gasloos maken en dat we overstappen op all-elektrisch of stadswarmte. In de nieuwbouw zijn we dat al verplicht in bepaalde wijken.

Amsman: Vindt u dat de vereisten van het bouwbesluit te halen zijn voor de corporatie?

Nerden: Ja

Amsman: Bij de woningen die jullie verkopen, zijn dit voornamelijk woningen met een goede of slechte energiezuinigheid?

Nerden: Ik wil niet zeggen dat energiezuinigheid een leidend begrip is bij het verkopen in de verkoopcijfer, daar kunnen hele andere motieven liggen. Zo hebben wij in de pijp vanuit historisch oogpunt veel versplinterd bezit, overal een los pandje, het onderhouden van deze zijn veel duurder dan het onderhouden van 1 groot complex. Je gaat meer kijken naar de factoren die het rendement bepalen naast de energiezuinigheid. Zo kijken we welke panden we beter kunnen afstoten. Maar we mogen alleen verkopen wat leegkomt, en de verhuisfrequentie rond de 5% ligt, kan je je voorstellen dat een woning maar eens in de 20 jaar te kop komt. Om je nieuwbouw draaiende te houden moet je veel woningen hebben. Wij hebben in Amsterdam 20.000 woningen en ik denk dat daar evengoed wel veel van in de verkoopvijver zitten. Wij moet vernieuwen want anders dan zitten wij straks met bouwvallen die slechts door middel van renoveren niet meer rendabel zijn.

Amsman: Kunt u mij vertellen wat er gebeurt bij het verduurzamen van de bestaande bouw?

Nerden: Wij gaan grootschaligs zonne-energie uitrollen. We gaan alle 1s gezinswoningen die we hebben en geschikte daken hebben die gaan we benaderen of ze zonne-energie op hun dak willen hebben. Wij gaan dat complexmatig aanbieden en benaderen hun. De eigenaars mogen dan zelf kiezen of zij dit willen of niet?

Amsman: Voor wie is dit voordeliger?

Nerden: Wij proberen duurzaamheid en betaalbaarheid te combineren. Ze krijgen een Zonne installatie voor misschien de helft van de prijs voor wat het opbrengt. Als het 30 euro in de maand opbrengt dan rekenen wij daar ongeveer 15 euro voor. Dat is omdat we ook wat aan de betaalbaarheid willen doen. Als je de taak van de woningcorporatie namelijk het betaalbaar leveren van woningen aan mensen met een kleine beurs serieus neemt dan moet je daar ook naar handelen. Zo waren er ook andere corporaties die geen huurverhoging hebben doorgerekend vorig jaar. Sinds de crisis zijn de huizenprijzen heel erg omlaag gegaan maar zijn de huren heel erg gestegen. Het is wel een beetje zo dat de crisis wordt verhaald op de mensen met minder geld.

Amsman: Bent u zelf ook betrokken bij het verduurzamen?

Nerden: Ja ik adviseer wel is bij projecten, voornamelijk aan de afdeling programma. Je moet je voorstellen dat bij de ketensamenwerking geven we niet meer exact de opdrachten van je moet zo en zoveel glas en isolatie. Nee we zeggen tegen de aannemer dit zijn de woningen dit is de huidige energie index, maak daar een label b van. Dus het is meer een prestatieopdracht. Wij gaan ervan uit dat de markt het vaak beter weet dan wij, een aannemer weet veel beter hou hij moet bouwen dan dat wij dat weten. We maken meer gebruik van elkaars expertise. De aannemer kan dan zelf kiezen wat financieel rendabel is. Bij de renovaties bepaalt de gebiedsontwikkelaar samen met de projectmanager wat er gedaan moet worden en dan wordt er een aanbesteding gedaan.

Interview D. Nuon

Interview with Marnix van Alpen, regulatory affairs adviser for Nuon

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Amsman: Kunt u mij als eerste vertellen welke functie u heeft en wat dit inhoudt?

Alpen: Ik werk bij Nuon/Fattenfall als public en regulatory affairs adviser. En dit houdt in dat ik mij vooral met nieuw beleid en de regelgeving bezig houd. Om er voor te zorgen dat dat op elkaar aansluit en bij onze belangen past.

Amsman: Hoe beschouwt Nuon het concept verduurzamen?

Dat is een begrip dat inmiddels een beetje uitgehold wordt. In de kern hebben wij het over duurzame energie, echter ook wel hernieuwbare energie, waarvan heel duidelijk staat beschreven wat hier wel en niet onder valt. Dan hebben we het over specifieke bronnen voor energie. Maar daarnaast wordt het ook wel algemeen gebruikt voor verduurzaming waarbij het gaat om het primaire energiegebruik te beperken. Dus er zit energiebesparing in en de overgang naar duurzame energie. Voornamelijk het besparen op fossiele energie, in 10 jaar in principe.

Amsman: Is dit over de loop van tijd veranderd?

Alpen: Nee eigenlijk is dit wel hetzelfde gebleven. Wat wel veranderd is hoe wij er zelf mee omgaan. Ieder bedrijf heeft altijd zijn duurzaamheidsdoelstellingen. Maar je ziet toch bij ons en ook wel bij anderen, dat het na het klimaatakkoord van Parijs is veranderd. Er zijn niet ineens meer doelstellingen gemaakt, maar ze worden wel een stuk serieuzer genomen. Nuon/Fattenfal heeft de doelstelling gemaakt om binnen één generatie fossielvrij te zijn. Fossielvrij betekent dus geen aardgas, kolen en zulke brandstoffen,. Binnen één generatie is natuurlijk vrij vraag, maar omdat wij in verschillende landen actief zijn hebben we te maken met verschillen situaties. In Nederland en Duitsland moet dat eigenlijk ruim voor 2050 fossielvrij zijn. Dit is niet gewoon een ambitie die wij hebben en wat we leuk zouden vinden, dit is echt een ambitie waarvoor iedere afdeling van het bedrijf een taak heeft om dat te kunnen bereiken. Alle beslissingen moeten in dat licht worden genomen.

Wij hebben ook centrales met fossiele brandstoffen die warmte leveren aan woningen en gebouwen. We moeten eerst een andere bron hebben wil je daar ineens mee kunnen stoppen. Ook hebben wij nog een kolencentrale, die wij willen sluiten in 2024. Er was eerder ook discussie om dat eerder te doen, maar we moeten ook rekening houden met ons personeel. Naast de energie zijn er ook andere factoren waar rekening gehouden mee moet worden.

A: Komt de ambitie om fossielvrij te zijn uit Nuon zelf, of is dit geïnstrueerd vanuit de overheid?

Nuon is onderdeel van Fattenfal, en Fattenfal is een Zweeds staatsbedrijf. Vanuit de Zweedse staat komt er natuurlijk wel een gedachte uit, Zweden heeft geloof ik de doelstelling om in 2045 fossielvrij te zijn. Dat is wel een reden ook dat bij ons Nuon wordt neergelegd. Vanuit de Zweedse overheid dus wel, vanuit de Nederlandse niet direct. De Nederlandse overheid die stimuleert en geeft aan dat het gewoon ondernemen is. Wij geloven er ook in dat je geen toekomst hebt als je fossiel bezig blijft zijn. Dus voor de continuïteit van het bedrijf is het ook belangrijk dat wij de stap naar duurzaam maken.

A: Is daar een balans n te vinden?

Bij de meeste projecten met windenergie en zonne-energie wordt nog steeds een subsidie gegeven waardoor de risico’s worden afgedekt. Maar het maakt het makkelijker voor een bedrijf om te investeren

Er zit ook binnen het bedrijf een drive om dit soort projecten te doen. Dat zit echt bij de mensen. Als je bij ons op de afdeling komt waar ze windprojecten ontwikkelen dar hebben ze een duidelijke drive naar meer en meer windenergie. Wij hebben geen afdeling die nieuwe kolencentrales wilt neerzetten. Ik denk ook niet dat er nog mensen zijn die een drive hebben om heel graag een nieuwe kolencentrale neer te zetten. Ik denk dat er echt een verandering is in de mensen. 15 jaar geleden hadden veel minder mensen de drive van wij willen iets met duurzaam doen. Ik heb dit wel altijd vanaf het begin gehad, maar toen had de meerderheid niet deze gedachtegang. Dat zien we nu wel bij de mensen die bij ons werken, maar ook mensen die ik tegenkom bij andere bedrijven en organisaties. Dat zijn over het algemeen wel jongere mensen. Wij hebben bij Fattenfal een nieuwe topman, en die gaat toch serieuzer om met een doelstelling waardoor de hele organisatie verandert.

A: Merkt u

Daar zie je twee ontwikkelingen, enerzijds zijn er steeds meer mensen die iets willen doen met duurzame energie, bijvoorbeeld door groene elektriciteit, zelf zonnepanelen doen en kijken naar alternatieven voor de gasketel. Anderzijds zie ik ook een steeds heftiger verzet tegen windparken en zonneparken. Mensen zijn intrinsiek wel gemotiveerd om iets te doen tegen klimaatverandering maar aan de andere kant is er een feller verzet tegen grootschalige windparken.

A: Werkt Nuon samen met andere partners?

Voor windturbines werken wij veel samen met lokale coöperaties. Er zijn bijvoorbeeld een aantal boeren die een stuk land hebben, waarbij een aantal turbines in eigendom zij van de boeren en een aantal in eigendom van Nuon. Dat doen wij ook met zonneparken waar wij nu mee bezig zijn. Er zijn agrariërs die daar hun grond voor beschikbaar stellen. Ook zijn wij bezig in steden doordat wij warmtenetten aanleggen in Nederland, dan ben je heel lokaal gebonden. De zes steden waar wij het meest actief zijn zijn Amsterdam, Rotterdam, Arnhem, Nijmegen, Leiden en Almere. Hier bestaat een nauwe samenwerking met die gemeenten.

Wij zoeken wel veel partners op, ook veel start-ups die nieuwe technieken gebruiken. We hebben in Nederland het nog niet gedaan maar in Duitsland bijvoorbeeld al wel, dan ga je investeren in kleine start ups. Dan ga je meer samenwerken en groter investeren. Als wij dan veel aandelen van dat bedrijf kopen dan behouden we een samenwerking en kunnen zij groeien omdat wij het kapitaal kunnen leveren. Dat maakt het voor ons makkelijker, dat een klein separaat bedrijfje dan kan ondernemen, in plaats van dat Nuon moet worden omgegooid. Dat zijn de voordelen van een kleine wendbare organisatie.

Interview F. The Belgian Federal government

Interview with Maarten Noeninckx, strategic coordinator for the Belgian federal government

Amsman: Zou u eerst kunnen vertellen wie u bent en welke functie u heeft voor de federale overhead?

Noeninckx: Ik ben Maarten Noeninckx, ik werk bij de Federale Energie administratie die deel uit maakt van de federale overheid dienst Economie. Mijn titel hier is Strategisch Coördinator en ik volg de zaken op van de directeur generaal. Interne energiemarkt, contacten met het buitenland, enzovoort.

A: In hoeverre heeft de federale overheid een vast begrip voor duurzaamheid?

N: Een grote disclaimer is dat in België dit soort zaken verdeeld zijn over het federale niveau en het Gewestelijk niveau, onder de drie Gewesten. Bij het federaal hebben we een zekere bevoegdheid inzake hernieuwbare energiebronnen maar voornamelijk op soort, en een heel beperkte bevoegdheid hebben wij in energie-efficiënte. Daarbij is het dan voornamelijk eco-design en eco-labeling,. Maar de voornaamste bevoegdheid zit in de ontwikkeling van het transitienetwerk, kernenergie, bevoorraadingszekerheid enzovoort. We proberen wel met de Gewesten te coördineren maar zij staan vrij om hun interne beleid te voeren zoals ze het willen. Het bijzondere daar is bijvoorbeeld bij het ontwikkelen van hernieuwbare energiebronnen dat ze hun bevoorradingszekerheid niet in gevaar brengen. Voor duurzaamheid kan ik meegeven dat er geen eenduidige definitie bestaat. Ik merk wel dat in de laatste documenten die we gepubliceerd hebben dat duurzaamheid een heel breed begrip is geworden. Ik denk dat duurzaamheid niet in die zin van louter ecologisch, maar ook sociale duurzaamheid en economische duurzaamheid belangrijk zijn, dus dat je niet enkel maar moet kijken naar de uitstoot maar ook wat de impact is op de maatschappij en ook of bepaalde maatregelen duurzaam zijn vanuit een economische kosten efficiëntie.

A: Ik begreep dat de Gewesten een eigen macht hebben, zij mogen dus zelf verzinnen hoe zij de energietransitie gaan aanpakken?

N: We hebben wel eerder dit jaar een Energiepact gesloten en ondertekend. We hebben nu een systeem met de Gewesten waarbij zij steeds meer eigen gezag hebben gekregen. Maar we merken in de netwerkindustrie zoals energie dat het toch wel noodzakelijk is om meer te coördineren want anders kom je er niet. We proberen dus wel om meer op een eenvormig beleid te komen. Op Europees niveau worden we natuurlijk ook verplicht om te verduurzamen. Hiervoor hebben wij documenten opgesteld. Er is het Nationaal Energieklimaatplan, die dwingt om te innoveren en om politici meer te laten kijken naar de nationale doelstelling dan louter het federale of het Gewestelijke beeld.

A: Kan de Federale overheid niet een soort quota vragen aan de Gewesten?

N: Het federale niveau staat ongeveer op gelijke voet met De Gewesten, het is niet zo dat wij eenvoudig dingen kunnen opleggen aan de Gewesten. Hierdoor kan het heel erg lang duren. Het probleem waar u over spreekt is te zien hoe de doelstellingen die Europa ons oplegt hoe we die kunnen verdelen onder elkaar. Dit zijn inderdaad hele intense discussies die voor de 2020 doelstelling 6 jaar hebben plaatsgevonden. We zijn nu al bezig om ze te verdelen voor 2030, dat is niet eenvoudig maar ik denk dat dat toch vlotter zal gaan dan de vorige door de opgedane ervaring.

A: In hoeverre merkt u dat er meer bewustzijn is ontstaan voor de verduurzaming en het belang daarvan binnen de Belgische samenleving?

N: Ik denk dat dat in twee richtingen gaat. Ik denk dat een heel groot deel mee gaat in het verhaal. België is ook voorloper op een heel aantal zaken dat met duurzaamheid te maken heeft, niet zozeer over energie waar we nodig veel vertrouwen op het nuclear-pact, wat er vandaag grotendeels uit ligt. Langs de andere kant merk ik dat de kost efficiënte nog vaak de overhand neemt en dat het nog grote kosten zijn voor iets waar je niet gelijk de baten van hebt. Ik denk dat dat moeilijk is. Er zijn een heel aantal mensen die zeggen: " We zitten met een heel goedkope energieproductie, waarom gaan we die nu eruit halen". Maar je ziet ook een CO_2 neutraal productieproces. Dus als je het gaat vervangen door deels een hernieuwbare bron dan gaat je CO2 voetprint ook naar boven. Nucleair biedt andere uitdagingen met het kernafval enzovoort.

A: In hoeverre coördineert de Federale overheid met steden binnen België over de energiekwestie?

N: Weinig. De bevoegde autoriteit voor de steden en gemeenten zijn de Gewesten. Wij zijn enkel bevoegd voor offshore energie, dat scheelt weer met het NIMBY-effect. Dus de energieopwekking en de ruimtelijke ordening van de gemeenten valt onder de Gewesten. Bevoorradingszekerheid is dan wel een ding, als er bijvoorbeeld een hoogspanningsleiding gebouwd moet worden dan moeten wij in gesprek gaan met die gemeente maar dat verloopt op een andere manier dan bij de Gewesten.

A: Merkt u binnen de federale overheid dat men anders kijkt naar het aspect van energie bij duurzaamheid vergeleken met vroeger?

N: Ook hier is het een beetje dubbel. Binnen ons ministerie, de FOD, hebben we nu wel al enkele jaren zelf duurzame ontwikkeling. Energie maakt daar deel van uit, maar ook termen als circulaire economie. Ze nemen het in ieder geval mee. Het feit dat we binnen het ministere van Economische Zaken zitten zorgt uiteraard wel voor een bepaalde input om energie vanuit een meer economische hoek te bekijken. Het is een politieke keuze geweest om energie en economie samen te zetten, ze hadden ook energie en klimaat samen onder één ministerie kunnen brengen. Ik denk dat dat toch

een andere dynamiek brengt op de manier waarop je naar de zaken kijkt. Ik heb tijdens mijn redelijke carrière hier het zwaartepunt zien verschuiven van het sociale aspect waarbij de consument beschermd moet worden dat zij betaalbare energie hebben naar een andere focus. Deze regering is wat liberaler en heeft meer aandacht ook voor de conductiviteit van de bedrijven. De vraag is nu waar de focus ligt en ik denk dat dat nu bij ons bij het competitieve ligt, duurzaamheid wordt onder de loep genomen. De Gewesten leggen daar vaak de nadruk op en 'challengen' ons als federale overheid om ecologische duurzaamheid steeds vaker mee te nemen.

Interview G. Antwerp

Interview with Johan de Herdt, of the municipality of Antwerp.

A: Welk begrip hanteert de gemeente Antwerpen voor duurzaamheid en in hoeverre is dit veranderd over de afgelopen 10 jaar?

H: De vorige coalitie, die ongeveer 7 jaar oud is, heeft de Nota Duurzame stad laten maken die voornamelijk ingevuld wordt met de typische terreinen als energieverbruik en verplaatsingen die zo duurzaam mogelijk moeten zijn. n dan kijk je ook naar lucht en geluidsemissies, en dat zijn heel zwaar wegende. Dan hebben we ook nog aandacht voor groenoppervlakte en waterbeleid, bij klimaatadaptatie is water belangrijker dan in de Nota in de vorige coalitie werd geschreven. De ruimte die er nog is moet zuinig mee worden omgegaan, bodemverontreiniging, en nog de vraag om een leiderschap te ontwikkelen. Dat zijn 8 delen, en die worden door onszelf uitgevoerd. Het is het doel dat andere diensten deze onderdelen meenemen in hun beleid. Dat zal in Nederland niet anders zijn. Mainstreamen. De top drie van de laatste 6 jaar dan krijgt men luchtkwaliteit, dat is in Vlaanderen heel hard in het nieuws. Antwerpen heeft een lage emissie zone waarin oudere benzine auto's en dieselauto's worden geweerd op basis van kwaliteit van de wagen. Een ander sterk gegeven is het klimaatplan, zowel de mitigatie als adaptatie en het uitvoeren ervan.

H: De meeste Vlaamse steden waaronder Antwerpen hebben een burgemeestersconvenant ondertekend waarin gezegd wordt dat ten opzichte van een basisjaar de uitstoot moet worden verminderd. Antwerpen moet voor 2020 20% uitstoot verminderen ten opzichte van 2005. Wij zijn er van uit dat wij dit gaan halen. Wij monitoren deze evolutie jaarlijks. Ook zijn wij al bezig met 2030, en dan opnieuw ten opzichte van 2005, Europa vraagt de steden 40% CO2 reductie en wij gaan voor 50 a 55% reductie. Dit is ambitieuzer dan Europa vraagt van ons.

A: Wat zijn gemaakte afspraken die relevant zijn voor de gemeente Antwerpen?

H: Effort Sharing Regulation is wat Belgie heeft afgesproken met Europa. De drie gewesten samen moeten ervoren zorgen dat België aan de afspraken met Europa voldoet. Antwerpen gaat voor 50% reductie, en dan heb je ook bedrijven die aangeven dat Vlaanderen slechts voor 35% recutie gaat. De bedrijven snappen er dan niks van en dan moeten wij als gemeente de situatie uitleggen. Wij gaan voor de Antwerpse doelstellingen van 50 a 55% reductie, het is aan het volgende College om daar een Klimaatplan rond goed te keuren. Vanaf 1 januari is er een nieuw bestuur die dit moet oppakken. Het huidige college heeft de doelstellingen opgesteld die het volgende college moet bekrachtigen.

A: Dit is zeer ambitieus, heeft Antwerpen dan een bevolking van zeer duurzame mensen waardoor dit gehaald kan worden?

H: De doelstellingen komen niet uit de lucht vallen. Een Nederlands bedrijf heeft het Energy Transition Management systeem gebouwd. Dit is een systeem dat in Nederland al veel wordt

gebruikt en wij hebben het gebruikt om door te reken en tot waar Antwerpen zou kunnen raken als wij al het Vlaamse beleid meenemen met termijnen tot 2030. Dan komen wij ongeveer uit rond de 50%. Dit is vervolgens doorgelicht aan een honderdtal mensen op één grote stakeholderdag waar zowel bedrijven als inwoners aanwezig waren. En daar werd toch wel geloofd dat de 50 a 55% gehaald kan worden. Vanuit de bedrijfskant was wel een onrust, hoe zitten deze cijfers want dit willen wij beter snappen. De burgers vroegen ons meer aandacht voor de ecologische voetafdruk. Wanneer producten in het buitenland worden geproduceerd maar hier gebruikt komt die uitstoot er nog bovenop. De vraag is of Antwerpen hier rekening mee kan houden maar dat zal niet de kern van het nieuwe beleid worden.

A: Hoe gaat de gemeente Antwerpen om met de opwekking van energie?

H: Antwerpen heeft het grote voordeel van de haven. In de haven wordt het grootste windmolenpark van België gebouwd. Daar is een groot potentieel. We hebben naar heel veel gekeken de voorbije jaren, zoals naar de getijden maar daar valt geen energie uit te halen. We hebben verschillende alternatieven bekeken van wat kan er nou bijkomen, en je komt toch vast uit op wind en zon. Dat zijn de twee grote bronnen waar wij mee moeten werken.

H: De linkerkant van de haven zal worden gebruikt voor tientallen windmolens, maar dat leidt niet tot discussies van de bevolking. De enige vraag die wij soms krijgen is of burgers financieel kunnen participeren maar er zijn geen opmerkingen. Ze plaatsen het in een haven wat een industrieel gebeid is. Ook zijn er heel veel trekvogels dus voor milieuactivisten is het wel heel belangrijk dat de windmolens niet in de lijnen komen te staan van de trekvogels. Dat is het enige conflict dat enigszins speelt. De haven van Antwerpen geeft de gronden in concessie en de haven vraagt windmolens wat duidelijk staat beschreven. Het is wel degelijk een private partij die deze bouwen, niet de gemeente Antwerpen. Aan de rechterkant zitten ze nu in een concessie dat daar door een privaat bedrijf windmolens worden gezet.

A: Werkt de gemeente Antwerpen samen met bedrijven of andere overheidsorganen?

Er is een verschil in de energie-intensieve industrie (ETS) en de niet ETS industrie. En als je de CO2 kaart van Antwerpen zou bekijken dan is 80% ETS en 20 % is de Effort Sharing Regulation.
In Antwerpen hebben wij het EcoHuis, dat is een initiatief van de stad en het is de publiekswerking naar de inwoners. Het heeft jaarlijks ongeveer 30.000 bezoekers en informeert burgers over alles wat met milieu, groen, adaptatie en energie te maken heeft. De bedoeling is dat het Ecohuis evolueert naar een landschap waar men binnen komt en naar innovatie vraagt en dat men helpt inclusief financiering. Tweede is dat Antwerpen zelf de energiebeheer regelt en er is een aantal mensen die puur kijkt naar het eigen patrimonium. Het derde heet SamenKlimaatActief en dat is opgericht twee jaar geleden, dit is een private onderneming die alleen kijkt naar gebouwen in een business too business relatie. Deze drie instrumenten zijn momenteel niet met elkaar verbonden, wat we willen bereiken voor 2030 is één grote governance structuur opzetten. We hebben daar vorig jaar hard over nagedacht en besproken met verschillende stakeholders in Antwerpen en er bestaat de mogelijkheid dat dat volgend jaar operationeel komt. De 20% reductie kunnen wij halen met instrumenten zonder onderliggende governance structuur.

H: Wij werken in overleg met Vlaanderen, energie instanties van Vlaanderen. Er zijn verschillende samenwerkingsverbanden. Sommigen lopen echt goed en andere zouden beter kunnen. Er ontbreekt in Vlaanderen een soort structuur waardoor de resultaten uitblijven. In al die landen die nu klimaatplannen maken zal het succes voornamelijk uit steden komen door de mobiliteit en inwoners. Toch zie je dat in de definities van de plannen grote verschillen zijn. De rapporterings-eisen zijn

verschillend, wat toch lastig is. Wanneer de plannen voor Europa gemaakt zijn en dit beleid wordt goedgekeurd en doorgezet naar lagere regionen zou het goed zijn als de regels en definities 'alligned' worden.

A: Wat heeft Antwerpen afgesproken met Vlaanderen en Europa?

H: Voor de klimaatafspraken doen wij dat met Europa. Vlaanderen bepaalt bijvoorbeeld rondom de regels voor gebouwen en woningen. Maar er is geen afspraak tussen Vlaanderen en Antwerpen waarin wordt gezegd dat Antwerpen bepaalde procenten of doelstellingen moet bijdragen.
Tussen Europa en een land bestaat een resultaatverbintenis, tussen Europa en Antwerpen bestaat een inspanningsverbintenis en tussen Vlaanderen en lokale besturen zit geen inspannings en/of resultaatverbintenis. Dit zou veel optimaler kunnen zijn voor afspraken.

Interview H. Bruges

Interview with Veronique Soulliaert, climate coordinator of the municipality of Bruges

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Amsman: Hoe heeft Brugge in het verleden gekeken naar duurzaamheid?

Soulliaert: Vooraf aan 2014 zijn we begonnen met losse acties, over energie, interne organisaties en hoe we het beter kunnen doen als duurzame stad. Vanaf 2014 met het ondertekening van het Burgemeestersconvenant zijn we gestructureerder gaan werken. In eerste instantie met een Energieactieplan. Die werd goedgekeurd in 2016 en we zijn van start gegaan om deze maatregelen uit te voeren. Recentelijk zijn we van start gegaan met klimaatadaptatie, en hebben we een studie laten maken voor de duurzame stad Brugge.

Amsman: Bestaat er een afdeling voor duurzaamheidsbeleid in Brugge?

S: Wij hadden een duurzaamheidscel die al bestond voor de ondertekening van burgermeesterconvent, al meer dan 10 jaar geleden. In het verleden hebben wij meer gewerkt rond het samenwerkingsovereenkomst. Dit is een samenwerking met de Vlaamse regering. Rond het jaar 2000 is deze overeenkomst opgesteld. Sinds dat moment zijn we de richting uit gegaan van duurzame stad. Al was er nog geen sprake van klimaat en klimaatadaptatie, maar daar zijn eigenlijk wel de eerste stappen gezet.

A: In hoeverre werkt Brugge samen met het Gewest Vlaanderen? Verwacht het Gewest bepaald beleid van de steden zoals Brugge?

S: Nee voor mijn gevoel is dat parallel gebeurd als ik mij dat goed herinner. Er is op Vlaams niveau een klimaatplan. De Vlaamse overheden en gemeenten zijn ongeveer gelijkertijd gestart met het opstellen van duurzaamheidsbeleid.

A: Bestaat er een samenwerking tussen de verschillende niveaus?

De plannen zijn opges5teld los van elkaar, maar wel opgesteld om rekening te houden met elkaar. Zo hebben wij een klimaatplan opgesteld los van het Vlaamse Klimaatplan, maar we hebben wel contact met mensen van Vlaanderen. Ook zijn er studiedagen en als er iets is wat wij kunnen meenemen dan nemen wij dat zeker mee. Er worden contacten gelegd en werkgroepen opgericht. Via deze werkgroepen ontstaan weer meer innovatieve projecten zo rolt alles verder.

A: Wat wordt er concreet besproken in deze werkgroepen?

S: Dat hangt er van af. Er zijn werkgroepen rondom wonen, energie. En daar gaan we als partners samen mee aan de slag. Vlaanderen geeft soms voorbeelden uit het buitenland, soms uit Frankrijk Nederland of Engeland. Ook vertellen zij over andere Belgische steden en gemeenten zodat wij kunnen leren van elkaar.

A: Heeft Brugge klimaatdoelen

Ja we willen 20 procent uitstoot verminderen tegen 2020, de uitstoot van de eigen stad met 50% verminderen in 2020 en we willen klimaatneutraal zijn in 2050. Ik vrees dat wij de doelstellingen niet gaan halen maar het zijn mooie doelen.

A: Ik begrijp dat men in Brugge al heel lang bewust is van het belang van verduurzamen. Hoe kan het dan dat de stad zijn eigen doelstellingen niet haalt?

S: Het gaat op termijn wel lukken maar niet 2020, omdat het beleid een zeer vertraagde werking heeft. Als we zien hoe acties het doen en als we de gevolgen kunnen bekijken kunnen we zien dat het een paar jaar duurt voordat alles echt op gang komt. Vanaf 2016 werd echt beleid uitgevoerd en tot 2020 is dat een hele korte periode. We zien wel dat er een effect is maar de doelstelling kunnen we waarschijnlijk niet halen. Er is in Brugge vrij weinig tegenstand tegen het verduurzamen, ze liggen er gewoon niet wakker van. Er bestaan de 'believers' die gemakkelijk over de brug te halen zijn, maar dat is slechts een klein percentage van de samenleving. Dat zal nog komen aangezien de gevolgen groter en merkbaarder worden, maar er zijn nog veel mensen die niet geloven in klimaatverandering en opwarming van de aarde. Er is geen sprake van tegenstad, men vind het niet belangrijk. Wij proberen de mensen het belang bij te brengen maar dit is heel lastig. Bij informatiedagen komen altijd dezelfde mensen die langs komen en graag willen horen wat de ideeën van de gemeente zijn

A: Hoe gaat de gemeente om met startups?

S: In het begin was dit lastig, maar wij hadden het probleem dat wij met twee snelheden zaten. Bij de overheden gaat het heel traag, daar moet beslist worden en moet het budget gezocht worden. Terwijl de burgers het liefst direct aan de slag willen gaan omdat zij heel enthousiast zijn. Ondertussen zijn wij twee jaar verder en gaat dit sneller. Er zijn geen subsidies bij de gemeente Brugge die de burgers kunnen gebruiken. Er bestaat een groep van vrijwilligers die dingen organiseren. Er is een klimaatpodium van de stad Brugge die samenkomt om te werken aan innovatieve ideeën. Wij als gemeente vinden het belang dat de burgers kunnen meepraten en meedenken. Wij bieden wel locaties voor deze samenkomsten, maar wij bieden geen financiële ondersteuning.

A: In hoeverre werkt Brugge samen met (energie) bedrijven?

S: Dat hebben wij geprobeerd maar dat ging zeer moeizaam omdat wij maar met zijn drieën zijn, en wij besloten ons te focussen op burgers. Wij bij Brugge hebben gekeken in Europa hoe andere overheden werkten en die focusten ook vooral op de burgers. Vanaf het najaar gaan wij eindelijk starten met het tertiaire sector, en wij willen ons dan focussen op de doelgroep bakkers beenhouwers en horeca. Wij willend deze doelgroep begeleiden naar het omschakelen naar minder energie verbruik en meer inzetten van hernieuwbare energie in hun zaak.

A: Merkt u ook dat medewerkers van de gemeente bewuster worden over verduurzaming?

S: Ja men beseft steeds meer dat duurzaamheid verder gaat dan milieu. Als wij een duurzame stad willen zijn dan moeten wij samenwerken met de milieudienst, met mobiliteit, met lokale

economieën. Het is veel breder geworden, de voeding heeft ook te maken met CO2 reductie. Vlaanderen kijkt met argusogen naar Brugge omdat wij één van de koplopers zijn bij voedselvoorziening. Al met al wordt het concept breder en breder.