

UTRECHT UNIVERSITY
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Explaining Dutch Failure and German Success in Renewable Energy Policymaking

An Agency/Structure Perspective

Gijs A. Diercks

Supervisor:
Dr. F.S.J. van Laerhoven

Second reader:
Dr. A. Macaspac Penetrante

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Student nr.: 3167615
g.a.diercks@students.uu.nl
Billitonkade 6
3531 TE Utrecht

Preface

The master thesis that is lying in front of you is the result of roughly eight months of research. At the beginning of this project, I laid out a couple of requirements for myself. Since this might be the last chance to get so much time and freedom to spend on one project, I wanted this to be a 'big' topic, with an abstract research question, and a challenging theoretical framework. Of course, there have been times that I regretted these choices, but overall I have been happy with my choices and have enjoyed the last few months.

Writing a thesis is a lonely exertion, but an exertion that can never be completed alone. Throughout the process, I received much help and support from different people. To begin with, I have always enjoyed the meetings with my supervisor, Frank van Laerhoven. Not only could I always count on quick replies to all my question, the discussions we had were both interesting and helpful with – in my perception – much mutual understanding. In addition, a word of thanks to my second reader, Dr. Penetrante, for the time he took to read and grade this extensive work.

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Abstract

Within Europe, Germany is clearly leading with regard to new renewable energy sources, while the Netherlands is lagging behind. This difference is often attributed to the fact that the German government has been much more effective in implementing smart policies that support the production of renewable energies. This thesis asks the question of why this policy developed in Germany and not in The Netherlands, and takes both a structure and an agency approach in an attempt to answer this.

The structural analysis clearly shows that, although not all hypotheses were confirmed, the *structure* of the policy process *matters*, as some structural characteristics of the policy networks showed a clear relation to policy outcome. The Agency analysis showed that German success can be attributed to an unusual coalition of niche players that obtained transformative power and took over the policy process, while in the Netherlands the dominance of regime players over policy making was retained. Above all, this research displayed a clear duality between agency and structure, as they co-determine each other as a process of change over time.

This provides some modes theoretical insights into how policy change could be better understood. Moreover, this understanding can be translated to some concrete recommendation to how Dutch niche players could proceed in their attempts to fasten the transition towards renewable energy.

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1. Introduction

1.1 Problem Description: different policy outcomes

The need for an energy transition from fossil fuel based energies to renewable energy sources has been a prominent item on the agenda of European governments for many years. Arguments in favor of such a transition can be placed under four main motives. First, there is the finite character of fossil energy. Second, many European countries are dependent on other (unstable) regimes for their imports of fossil energies. Third, there are many environmental issues connected to the burning of fossil energy, such as pollution and climate change. A final argument states that production of renewable energy could help generate new domestic industries and associated jobs.

Not all countries have been equally successful in transforming concerns around these motives into an actual transition path towards sustainable energy production. A recent study of the Energy Research Center of the Netherlands (ECN) showed that there are some clear frontrunners and laggards within the EU. The Netherlands is a country that is performing very badly. In 2010, only 3,8 percent of the total energy supply was renewable. This is even a decrease compared to 2009, when the share was 4,2%. Within the EU, only Malta, Cyprus and the United Kingdom (UK) have lower shares. Germany – a country with comparable physical conditions and thus similar potential for renewable energy production – is performing much better with a fast growing share of renewable energy and a current level of 10,1 percent (ECN, 2011).

This difference is often attributed to the fact that the German government has been much more effective in implementing smart policies that support the production of renewable energies (e.g. IPPC, 2011). However, it is unlikely, if not impossible, that changes in a complex societal system such as energy production can be attributed to only one (unified) actor, in this case the German government. According to Scharpf (1978), the process of policy formation and implementation is inevitably the result of interactions between several actors who all have their own interests, goals and strategies. Furthermore, Geels (2006) argues that although policy makers are important, there are a number of other actors such as firms, special interest groups and consumers that are involved in the energy transition. Their perceptions, strategies and actions are at least of equal importance for a proper explanation.

1.2 Governing: from government to governance

These argumentations are in line with an extensive body of literature that stresses the shift in governing from government to governance. Classical views on governing have been a distinction between markets and hierarchies as governing structures for allocating resources and exercising control and coordination. The concept of governance sees that this allocation – or *steering* – does not occur through markets and hierarchies alone, but through self-organizing inter-organizational networks (Kjaer, 2004). According to Kooiman (1993), the governance concept can therefore best be seen as a self-steering organism that is the governance process. *‘It points to the creation of a structure or an order which cannot be externally imposed but is the result of the interaction of a multiplicity of governing- and each other influencing actors’* (Kooiman and van Vliet, 1993, p64)

Thus the Governance concept complements the notions of Scharpf (1978) and Geels (2006) stating that a societal transformation cannot be established through effective government action alone. Neither can such a development take place through only pure market forces. Rather, *‘public policies are made via some kind of hybrid arrangement involving a range of different actors, including some representing private or nongovernmental institutions’* (Peterson, 2003, p1). The notion that ‘governance’ and ‘policy making’ takes place through these hybrid arrangements (partnerships, networks) is not a novel notion. *“The*

model of a unitary, state-centered hierarchical political decision-making structure has always been a fiction, quite remote from real-life decision making.” (Adam and Kriesi, 2009, p.132). Nonetheless, there is a shift of emphasis as new, complex, and uncertain problems with much goal ambiguity ask for more governance, as governing structures of the state and the market are insufficient for dealing with them (Meadowcroft, 2007). Sabatier and Weible (2009) refer to these as ‘wicked’ problems – *‘those involving substantial goal conflicts, important technical disputes and multiple actors from several levels of government’*. There is little doubt that a countries energy policy can be identified as one of these ‘wicked’ problems.

1.3 Research Objective and Research Question

The aim of this thesis is to try and explain why the transition process to renewable energy sources has been more successful in Germany than in the Netherlands. As said before, explanations are often found in specific policy outcomes. However, as the governing debate clearly demonstrates, differences in policy outcomes cannot exclusively be attributed to the single actor of government, but must be found in the process of governance. Rather than evaluating Dutch and German policies on their effectiveness, the central question of this thesis will be about why these effective policies were designed in Germany and not in the Netherlands (and vice versa).

This thesis will try to research this by contrasting two conflicting schools of theory. The first school sees the structure of a policy network as a crucial driver for change and will therefore be referred to as *structure-driven*. The second school attributes more explanatory force to differences in actors and their resources and will therefore be referred to as *agency-driven*. Finally, a third group of authors attempts to integrate the theories through structure/agency duality. The main research question will be:

- *To what extent can the conflicting theories of structure-driven and/or agency-driven policy change explain different policy outcomes in the Netherlands and Germany concerning the transition to renewable energies?*

This main question will be divided in the following sub questions:

- *To what extent can structure-driven theory explain different policy outcomes in the Netherlands and Germany*
- *To what extent can agency-driven theory explain different policy outcomes in the Netherlands and Germany*
- *To what extent can agency/structure duality explain different policy outcomes in the Netherlands and Germany?*

1.4 Societal relevance

The main societal relevance of this research will be to get a better insight in what factors have been crucial in determining the difference in policy outcomes in the energy sector between the Netherlands and Germany. Energy transition is a topic that evokes much debate. Everyone seems to have an opinion about it. When introducing the topic, people immediately start giving many rather unfounded explanations. Some say it is the different political climates in both countries, or that it is solely the influence of Hemann Scheer and Hans-Josef Fell, and their role as members of parliament in the German Bundestag. Others argue that it's the Dutch ‘poldermodel’ that gives too much attention to the vested interests of Shell, Gastera and the large fossil fuel based industries. It will be interesting to see what exactly has played a role, and to what extent. With that knowledge, it might be determined where the opportunities lie to create leverage, so that

future transitions can be steered better. This can apply to the energy sector specifically, but possible also to different sectors.

1.5 Academic relevance

Energy transition is not a new topic in the academic literature. Concerning actor-driven approaches, transition management in specific is a discipline that has caught the attention of many Dutch scholars (Rotmans, Loorbach, Geels, Kemp), and it is therefore not surprising that specific case studies about the Dutch energy sector already exist (Verbong and Geels, 2006; Loorbach, van den Brugge and Taanman, 2008; Kern and Smith, 2008; Kemp, 2010). However, these studies focus on steering broad societal transitions, rather than focusing on specific policy outcomes. Also, the cases are single country and single theory, meaning that they do not compare different cases or conflicting theories. Furthermore, most studies are rather qualitative and descriptive. In response, this research aims to create a set of variables that can be conceptualized and operationalized, making a more positivistic research possible.

Structure-driven approaches in the form of policy network analysis are also not a new topic in academic literature. There are even some studies that concretely deal with the energy sector. Kriesi and Maya (2001) have performed a rather profound analysis on the Swiss energy sector. Van Rooijen and van Wees (2006) made a less profound structural study for the Dutch sector. This means there is still a need for a more insightful policy network analysis of the Dutch and German energy sector.

Finally, most studies limit themselves to testing one theory, based on the analysis of one country. This research will apply the comparative case study method testing conflicting theories. Compared to single case studies, the major advantage of comparative studies is the ability to generate results that go beyond the immediate case studies undertaken. This makes it possible to also cautiously produce more general statements (Djaugberg, 1998). Furthermore, by testing conflicting theories this research again aims to go beyond generating results for the immediate case studies by making statements about the explanatory value of the two respective theories. In this way, I hope to both find an answer to the research question, and add something to the theory.

2. Theoretical framework.

2.1 The structure/agency debate in political science

A central debate within sociology is whether to explore social phenomena through an agency or a structural perspective, disputing over *“the question whether society is a product of individuals’ action or a social construction”* (Wang, 2010, p.101). Theorists who emphasize structure rather than agency, argue that *it is the social world (‘structure’) that constructs’ individual in so far that actors forms of thoughts and actions are to a large extent structurally predetermined* (Sibeon, 1999, p.139). Theorists who emphasize agency rather than structure argue that the actors’ capacity to act upon situations is the principal element, as *individuals are relatively autonomous, creative beings who ‘construct’ the social world* (Sibeon, 1999, p.139). This debate has found its way to various academic disciplines.

In political science, structure can be defined as the specific institutional and political environments facilitating and constraining the abilities and opportunities of actors to advocate their interests (based on Wang, 2010; Marsh and Smith, 2000). Political scientists who take a structural perspective to policy change argue that the structure of the policy networks is the best explanatory variable behind policy outcome. The reason for this is that structural characteristics *“define the roles which actors play within the networks; prescribe the issues which are discussed and how they are dealt with; have distinct set of rules; and contain organizational imperatives, so that, at least, there is a major pressure to maintain the network”* (Marsh and Smith, 2000, p.5) An important branch of this school is Policy Network Analysis. They examine all structural characteristics of a policy network in an attempt to describe, explain and possibly predict policy change based on theories of Social Network Analysis

Political scientists who take an agency perspective see actors as strategically calculated subjects who determine policy outcomes by employing strategies to mobilize resources and obtain power. They examine the strategies of actors within political institutions and society at large. By looking at patterns of interactions and resource exchange, they too attempt to describe, explain and predict policy change. For the actor-driven theories, transition theory cannot be neglected. The previous section already pointed out that scholars in this field have done much research on the importance of the role of actors in societal transitions, and energy transitions in particular. Punctuated Equilibrium Theory, Advocacy Coalition Framework and Multiple Streams are interesting theories that focus more specifically on policy change.

Section 2.2 and 2.3 will discuss structure-driven theory and agency-driven theory separately and in more detail. In section 2.4, I will shortly discuss some additional theories that talk about integrating agency and structure driven theory by adding temporal interrelations between the two.

2.2 Theory for Structure-Driven Policy Change.

2.2.1 Policy Network Analysis

Policy networks constitute *“(more or less) stable patterns of social relations between interdependent actors, which take shape around policy problems and/or policy programs.”* (Koppenjan and Klijn, 2004, p69). Hence, policy network analysis is a theory that puts much emphasis on the importance of the plurality of actors and their relations in the policy process. It attempts to explain policy development by examining network of actors concerned with a given policy problem, across the public and private sectors and throughout different levels of governance (Mikkelsen, 2006). It thus acknowledges the fact that policy is not formed by one actor alone, but through a hybrid arrangement of

several actors. Its main hypothesis is that the structure of the network itself can determine policy success and failure.

An important characteristic of these policy networks is that they are not comprehensive, but that they deal with policy domain-specific subsystems. These subsystems operate more or less independently from one another and they each consist of a large number of actors, both public and private, dealing with the specific policy issues. They have been identified many times and have been named 'policy communities', 'iron triangles' or 'issue networks' (Adam and Kriesi, 2009). From hereafter, I will refer to these as issue networks.

By identifying all the actors and their ties, it is possible to reconstruct such an issue network. There is hence little doubt about the metaphorical usefulness of a policy network analysis and its ability to describe a policy process (Dowding, 1995). However, many attempts have been made to go a step further by formalizing the theory. It has been developed and refined as a way to try to not only describe, but also explain and predict the outcomes of a policy process based on their network characteristics (Peterson, 2003).

2.1.2 How can structure-driven theory explain different policy outcomes?

Using such a formalized social network analysis can depict the structure of a specified group, creating variables that make a quantitative analysis possible. This section will give a short overview of how such an analysis of a policy network can help to explain different policy outcomes.

In a study of environmental policy in Danish and Swedish agriculture, Djaugberg (1998) shows that while dealing with similar problems, different policy network characteristics explained different policy outcomes in the two countries. Djaugberg attributed the different outcomes to the different degrees of cohesion in the network. Since the Danish network was much more cohesive, they were better able to mobilize support and steer the process to an outcome more to their liking. Unfortunately, the way cohesion was measured is rather descriptive, establishing it *by examining the extent of consensus on the state responsibility rule in the network* (Djaugberg, 1998, p85). This was done by a literature analysis. There were no clear variables defined that could lead to a more formalized network analysis.

Another interesting approach to quantitative analysis of network structures is given by Adam and Kriesi (2009). They propose a formal analysis of the distribution of powers and type of interaction. The distribution can be concentrated or fragmented, where *the degree of concentration of power is expected to determine the potential for change* (Adam and Kriesi, 2009, p145). It is assumed that the potential for change is greater if power is fragmented. This is because fragmentation creates a better balance of powers and thus a bigger chance for newcomers to find an opening in the existing network. They also identify *type* of interaction as a structural network variable that could explain policy outcome. They distinguish between conflict, bargaining or cooperation. The type of interaction determines the *form* of policy change. For example, *in conflictual situations we expect rapid (serial) policy shift, whereas incremental changes are most likely to result in bargaining situations* (Adam and Kriesi, 2009, p.145).

A third and promising approach to how formal network analysis could help explain different policy outcomes is given by Sandstrom and Rova (2010). They aim to address the relation between network structure and adaptability. It does this in a highly formalized way by calculating the networks closure and heterogeneity. *'Network closure describes how well-connected a network is, either directly by the existence of many contact links or indirectly through a central actor coordinating the management activities. Network heterogeneity reflects how many different organizations and/or sectors are represented in the network and to what extent*

collaboration takes place among people with different affiliations' (Sandstrom and Rova, 2010, p530). According to Sandstrom and Rova, a high level of network closure leads to a better adaptability of the network, as transaction costs for needed exchange(s) between actors are low. This is in line with the findings of Djaugberg, who found that a higher degree of cohesion would be beneficial. The difference is that closure can be formalized, as *'the level of network closure is empirically investigated using two measures, density and centralization. Density refers to how many connections the structure is comprised of and centralization to what extent these connections are indirectly channeled through a single actor, reflecting the level of hierarchy within the network'* (Sandstrom and Rova, 2010, p 534).

The authors argue that the heterogeneity of a network leads to better resource mobilizations, making it less likely to suffer from resource scarcity, as a plurality of (sub)groups of actors will easier create and allow new ideas to tackle the problems at hand. Again, Sandstrom and Riva provide a concrete way to formalize heterogeneity by calculating the number of links connecting actors with actors of different organizations and dividing them by the total number of links in the network. *'Consequently, a highly diversified network with significant communication across organizational borders is perceived as heterogeneous'* (Sandstrom and Rova, 2010, p 536).

In sum, the literature provides us with four structural characteristics that could be analyzed, namely closure, heterogeneity, distribution of power and types of interaction. The first two are very well suited for a formalized, quantitative analysis. Distribution of power and type of interaction ask for a more qualitative approach.

2.3 Theory for agency-driven policy change

This section consists of a short overview of transition theory, as it is most outspoken in how actors can determine outcome by mobilizing resources. When zooming in on agency-driven theory in the policy domain specifically, punctuated equilibrium theory, the advocacy coalition framework, and the multiple streams framework are discussed.

2.3.1 Transition Theory

Transition Theory sees the policy process as being part of a larger co-evolutionary process of a societal transition, which can be *purposefully* managed and steered by (groups of) actors (Rotmans, 2005). Hence, Transition Theory puts less emphasis on structural network elements and attributes more explanatory value to actor characteristics and their patterns of interactions and resource exchange. It argues that societal systems – such as health care, transport but also energy systems - do not change incrementally, but tend to go through phases of abrupt transition alternating with relatively stable periods. Rotmans (2005) therefore defines 'transitions' as *non-linear processes of social change in which a societal system is structurally transformed*. Transition theory is built around two central frameworks, namely the multi-phase and the multi-level framework, which together sketch a multi-pattern image describing different possible trends in transitions of societal systems.

Multi-phase

Transition theory distinguishes four distinct phases. These are '(i) *the pre-development phase* from dynamic state of equilibrium in which the status quo of the system changes in the background, but these changes are not visible; (ii) *the take-off phase*, the actual point of ignition after which the process of structural change picks up momentum; (iii) *the acceleration phase* in which structural changes become visible; (iv) *the stabilization phase* where a new dynamic state of equilibrium is achieved' (Rotmans, 2005, p23).

Multi-level

It describes the different levels on which a transition process takes place, namely the

macro, meso and micro level. The macro-level is the so-called 'landscape', representing the general ideas in politics, culture, worldviews, etc. The meso level is that of regimes consisting of organizations, institutions, rules and vested interests. The micro-level is the domain where niches can arise and develop, pre-eminently the place where innovations happen (Geels and Kemp, 2000).

The concept explains how small changes in the landscape can create a window of opportunity for niches to attack and take over the current regime. The theory describes that, for societal transitions to take place, developments on all three levels need to reinforce each other, creating positive feedback loops and breaking through a status quo of dynamic equilibrium. When this is not the case, transitions might not take place. Different patterns of negative feedback loops can develop, leading to lock-in, backlash or even a system breakdown.

What this process describes is that in a period of transition there are many interactions on multi-levels and in multi-phases. Underlying power relations shape these interactions. During a transition process, the relative power between niches and regimes change. This relative change determines the outcome (either the failure or success) of a transition process.

Transition management

Central in transition theory is the belief that these interactions and developments in a transition process can be steered by (groups of) actors, meaning that a management of transitions is possible. This is not through classic forms of management and control but *through clever, subtle changes and adjustments at several levels concurrently* (Rotmans, 2005, p5). It is specifically applicable to those modern complex 'wicked' problems – as mentioned in the introduction – that are characterized by a lack of consensus concerning solution *and* problem.

The Dutch transition scholars focus on the management of societal transitions, but there is plenty of other literature available stating that the underlying power relations between regimes and niches could also be used to describe, explain and possibly predict specific *policy* outcomes. Below, three theories are discussed that also observe a role for (groups of) actors to purposefully aim to steer the *policy* process. Although their actor-driven assumptions are not as strong, they form a valuable contribution to transition theory when trying to describe, explain and possibly predict policy outcomes based on actor-driven theory.

2.3.2 Agency-driven theory in the policy domain

Punctuated Equilibrium Theory

Punctuated-equilibrium theory observes that *political processes are generally characterized by stability and incrementalism, but occasionally they produce large-scale departures from the past*' (True et al., 2009, p155). Similar to policy network theory, the punctuated equilibrium theory (PE) sees that the policy process is characterized by issue-oriented policy subsystems, earlier referred to as issue networks. As no political system features continuous discussion on all issues that confront it, most issues most of the times are treated outside of the political spotlight by relatively closed communities of experts on the issue. As there can be thousands of issues considered at the same time by an equal number of communities of experts, this is referred to as parallel processing. These communities do not completely lock out change, but create equilibrium of interests in which only marginal change and marginal moves are possible in response to changing circumstance (True et. Al, 2009).

These closed issue networks working outside the spotlights make a conservative nature of national political systems that often favor the status quo. It is difficult for disfavored groups and new ideas to break through this established system of policy making. Therefore, major change asks for a special event, conflict or an extraordinary effort. When this happens an issue moves higher on the agenda, putting it in the spotlights of national politics. Such an environment of changing issue definitions and increasing media coverage and public attention creates a window of opportunity for new participants within the issue domain – so called policy entrepreneurs – to advance their case and create a breakthrough in the issue domain. (True et. Al, 2009).

This has many similarities to transition theory, where a breakthrough can be achieved by niches (in the case of PE: policy entrepreneurs) taking over a regime by making use of a window of opportunity provided by a changing landscape (in the case of PE: changing environment). These elements determine whether an issue will catch fire with positive feedback or not. PE therefore explicitly gives room to the possibility of *actors to 'control attempts to shift conflict from the subsystem level to the macropolitical level'* (True et al, p163).

Altogether, it is an important school of thought, which has the ability to question established models of the policy process, such as incrementalism. However, some important questions remain unanswered as the theory remains rather descriptive, not giving much room to form hypotheses that state *how, when and to what extent* actors try to form the policy agenda in the light of a landscape change (John, 2003). The next section will discuss the Advocacy Coalition Framework, which has made a more explicit attempt in this direction.

Advocacy Coalition Framework

The Advocacy Coalition Framework (ACF) draws a similar pattern of policy monopolies being disturbed by new coalitions of policy entrepreneurs. The ACF also sees policies being formed in specific issue domains. More than PE, it puts emphasis on a purpose-driven actor approach as *'policy participants hold strong beliefs and are motivated to translate those beliefs in actual policy'* (Sabatier and Weible, 2009, p192). The set of actors in these issue domains are likely to be organized into just a few (two to four) coalitions with varying power over the political process (Adam and Kriesi, 2009). If there is only one dominant coalition, we speak of a policy monopoly (Sabatier and Weible, 2009).

The policy participants are firstly driven by deep core beliefs (such as the traditional left/right divide) and translate those to policy core beliefs. These are applications of the deep core believes and are applicable to an entire policy subsystem, such as the energy policy of a country. Of course, there can be several policy core beliefs that for different reasons have similar policy preferences. For instance, people wanting energy security can have different core beliefs from those wanting to protect the environment or worrying about energy scarcity. Nonetheless, there policy preferences will be similar; making the policy core believes *'the stickiest glue that bind coalitions together'* (Sabatier and Weible, p192).

In order to create a transition in policy, a breakthrough must be created changing the dominant advocacy coalition of the issue domain. According to the ACF this can happen in two ways. First, *Policy-oriented learning* can change the coalition from the inside out by altering the beliefs of the current participants. Since the deep core beliefs and policy core beliefs are very resistant to change in response to new information, policy-oriented learning may take ten years or more and have marginal effects (Sabatier and Weible, 2009). Second, for significant change, ACF argues that this is most likely to happen in the light of *external perturbations or shocks*. These include *'socioeconomic conditions, regime change, outputs from other subsystems or disaster'* (Sabatier and Weible, 2009, p198). These

can fundamentally change the core beliefs of the dominant coalition, but it will more likely lead to the redistribution of resources giving room for the replacement of the dominant coalition by a minority coalition.

Similar to the PE, the ACF attributes an explicit role to actors in steering towards specific policy outcomes. It goes a step further than PE by providing us with a more elaborate explanation of how actors can create power and leverage in the policy process. The ACF sees an important role for policy relevant resources that policy participants can mobilize. The benefit of naming concrete 'policy-relevant' resources is that they can be conceptualized. This makes operationalization possible and gives room to more formalized forms of analysis with stronger hypotheses.

The ACF still sees a role for structural characteristics of the policy domain when explaining the policy process, as advocacy coalitions are subject to the context in which they work. This context can vary greatly in different regions and countries (Sabatier and Weible, 2009), limiting the power of purpose-driven (groups of) actors. The next section will discuss the Multiple Streams (MS) framework. Of all three theories discussed, MS attributes the least influence to structural characteristics and institutions, and the most to individuals.

Multiple Streams

A number of assumptions of the Multiple Streams perspective (MS) is similar to that of PE and ACF. It also observes the existence of parallel issue domains and policy entrepreneurs who attempt to exercise influence in such a domain when a window of opportunity is opened due to certain external landscape changes. In the end, MS argues, '*policies are people's products, usually generated in narrow policy communities*' (Zahariadis, 2009).

MS differs from PE and ACF in that it sketches a much more chaotic and blurry policy process. Zahariadis (2009) argues that policy makers themselves are not necessarily part of a coalition; they are also just civil servants doing their work. This makes policy makers less rationalists, having problematic preferences and being subject to manipulation. He clearly distinguishes them from policy entrepreneurs. They can be seen as more rationalistic goal intended manipulators, similar to those of the ACF.

The *multiple streams* refer to three streams that flow through the policy system, namely problems, policies and politics. The problems stream consist simply of the issues that policy makers and citizens want to address (i.e. energy security). The policies stream includes all the solutions that compete to win acceptance in policy networks. The politics stream consists of a set of different factors – such as national mood, pressure-group campaigns and administrative turnover – that determine whether an issue is hot or not. The goal of policy entrepreneurs is to combine all three streams, thereby creating the biggest possible window of opportunity for policy change (Zahariadis, 2009).

Also in the MS framework, there is room for structural network characteristics to explain policy outcome. However, they attribute much more power to the policy entrepreneur than the ACF and PE. Or to quote Zahariadis: '*MS subscribes the notion that institutions make things possible, but people make things happen. It points to the importance of policy entrepreneurs and human conditions and emotion as the bases of policy manipulation. Moreover, institutions matter, but their importance is tempered considerably by individuals, timing, and context*' (Zahariadis, 2009, p84). This means that the specific qualities of entrepreneurs are vital, qualities with which the entrepreneur can be more successful in coupling the different streams. The MS sees resources of the entrepreneur as an important explanatory variable for these qualities, creating again similarities with the ACF and providing researches with ways to operationalize hypotheses.

2.3.3 How can agency-driven theory explain different policy outcomes?

This chapter discussed several theories that see a more explicit role for (groups of) actors to create a purpose-driven transition management and policy process. Transition theory has the strongest actor-driven assumptions, but lacks a focus on the policy level. PE, ACF and MS add weight to this theory, stating that there is in fact room for transition management, also in the policy process.

PE remains descriptive; its greatest power lies in showing that there are identifiable transitions (punctuations) in a policy process, rather than plain incrementalism – a similar development transition theory observed for larger societal transitions. MS and ACF both emphasize – although to a different extent – the clear purpose-driven role for so-called policy entrepreneurs. Successful entrepreneurs employ resources to execute manipulating strategies to accomplish their goals. This creates again a bridge to transition theory, where Rotmans and Avelino have also attempted to relate underlying power relations in a transition to resources, as *power is the ability of actors to mobilize resources* (Avelino and Rotmans, 2009).

The approach of Avelino and Rotmans is interesting because they become very concrete in defining resources in entities that can be operationalized in the form of concrete *human, mental, monetary, artefactual, and natural resources* (Avelino and Rotmans, 2009, p551). However, naming the exact resources mobilized by the different actors will not only be very difficult, it will also be quite meaningless. For instance, stating that Shell invested a certain number of monetary, human and/or artefactual resources and that Greenpeace has done this to a different extent, does not directly tell us something about the *political* power obtained with those resources. The reason for this is for a resource to become of real value, it must create a comparative advantage. Resources that provide comparative advantages are rare, hard-to-imitate or non-substitutable (Bonardi, 2011).

Every sector in the economy has different resources that can create a comparative advantage. For the political environment, this is not different; hence one can speak of ‘political resources’. In this thesis, I will use the political resources identified by Sabatier (2009), as they give a good overview of resources that create a comparative advantage in the political environment.

Formal legal authority to make policy decisions

One of the most effective ways to obtain power is to get people with formal legal authority to make policy decisions on your side. This can be done through elections or political appointments. Another possibility is to sway people already in those positions through lobbying campaigns.

Public opinion

Public opinion is important for two reasons. First, it is an indirect way of getting formal legal authority, as it will increase chances of people being elected or appointed into certain positions. Second, public opinion is vital for creating the necessary public support for actual actions carried out. Public opinion can be obtained in many different ways. A powerful idea, concept or discourse can steer public opinion in your direction. This can also be a photo, film or song. All these strategies are often expressed through media campaigns.

Information

Information is not always neutral and is an important political resource due to its strategic use. The authority over information is an important way to win political battles against opponents and dominance over this domain creates legitimacy.

Mobilizable troops

Mobilizable troops are members of the attentive public who support a specific cause and can be persuaded to engage in various political activities such as public demonstrations or electoral and fund-raising campaigns. They consist of protesters, volunteers, or members of an interest group, union or umbrella organization. It is a political resource that is characterized by a minimal use of monetary resources and therefore often used.

Sabatier (2009) also identified financial resources as a specific political resource. However, I believe financial resources are only a means by which other political resources are obtained. They do not possess a comparative advantage in itself as it is not rare, hard-to-imitate and/or non-substitutable.

Having these resources says something about the power a (group of) actor(s) can have. However, these resources are neutral and only become power-laden when actors who want to reach a certain goal mobilize them. This means that resources do not equal power but that there are different ways that resources can be mobilized, resulting in different types of power. During a time of transformation, all types of power are exercised and interact with each other. Avelino and Rotmans (2009) establish five different ways in which resources can be mobilized, creating five different types of power. These are:

<i>Innovative power:</i>	Capacity to create or discover new resources.
<i>Destructive power:</i>	Ability to destroy existing resources.
<i>Constitutive power:</i>	Ability to constitute a distribution of resources.
<i>Transformative power:</i>	Ability to transform the distribution of resources.
<i>Systemic power:</i>	Combined capacity of actors to mobilize resources for the survival of a societal system.

Using this framework, transitions can now be seen as a process of actors aiming to mobilize resources so that they can change or control underlying power relations.

2.4 From dualism to duality: integrating agency and structure

Paragraph 2.2 and 2.3 discussed some theories behind structure and agency driven policy change. Social scientists from different disciplines have expressed critiques towards approaches that simply look at causal relations between either structure and outcome, or agency and outcome. Agency-driven theory deals with actual events as they unfold through time (Wight, 2006), but it neglects the structural and institutional contexts in which actors are embedded (Wang, 2010). Structural-driven theory takes a snapshot of the structural characteristics ex-ante (Wight, 2006), but fails to capture the dynamic aspect of the policymaking process because of a lack of attention to the dynamics that motivate actors within the network that act as a catalyst of the process (Peters, 1998). It is therefore valuable to take both drivers into account.

However, dividing the research in a part that looks at structural drivers and a part that looks at agency-drivers behind policy change will not be sufficient. This is called ***dualism*** and implies some sort of co-existence of the two drivers. However, agency and structure do not co-exist because they are two sides of the same coin: structures are both the means and the outcomes of action, resulting in the fact that structure and agency are inextricably linked, rather than mutually exclusive. This is called ***duality***, meaning that “*social phenomena are not the product of either structure or agency not is agency independent of structure. Rather, human agents draw on social structures in their actions, and at the same time these actions serve to produce and reproduce social structure*” (Jones and Karstens, 2008).

Thus structure and agency are inextricably linked because they co-determine each other as a process of change *over time*. Treating them independently means that you disregard time as a variable, seeing structure only as the means of action, forgetting it is also the outcome of action. The fact that time is of importance is based on two simple ontological assumptions about reality: first, structure logically pre-dates the actions(s). Second, change in structure logically post-dates those actions. This means that an action – such as a policy – logically both predates and post-dates the structural factors conditioning it (Carlsnaes, 1992).

A policy outcome can therefore not be explained by a structural research describing and explaining how structure influences outcome and/or an agency research describing and explaining how agency influences outcome. The above shows that it is crucial to also understand how structure and agency relate to each other *over time* (or influence each other over time). This will lift any agency/structure research to a higher level that goes beyond conclusions that explain policy change by ‘a little bit of agency, and a little bit of structure’.

The implication for this research is that a structural research must be repeated at least once in a different time period, in order to analyze the interrelations between agency and structure over time.

3. Conceptual model and hypotheses

3.1 Conceptual Model

The conceptual model can be understood as follows. First, we understand policy as an output of a policy process. The input of this process can be understood as a change in the policy environment, or the landscape. In the case these landscape changes can be understood as the four main arguments that drive the energy transition. These are the finite character of fossil sources, the dependency on imports, environmental aspects of burning fossil energy and the potential for a domestic industry. These landscape pressures influence the issue network. This is the policy subsystem, consisting of a large number of actors – both public and private – dealing with the specific policy issues. Up till this point, both theories discussed take a similar approach of explaining differences in policy outcomes. However, here they depart and find different explanations.

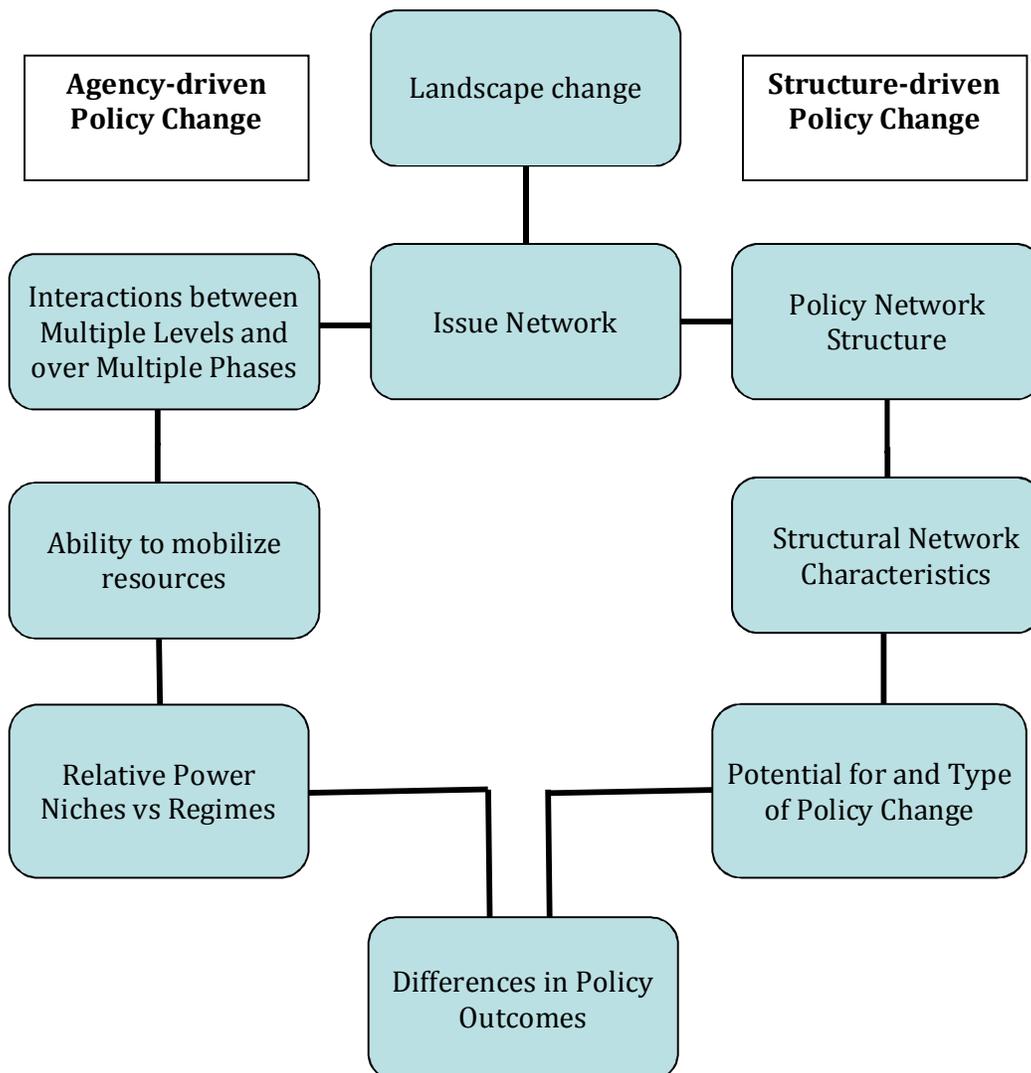


Figure 1: Conceptual Model

According to actor-driven theory, structural characteristics of an issue network do have some influence, but their importance is tempered considerably by individual (groups of) actors. They argue that landscape changes form a window of opportunity for niches to

attack the current regime. Interactions between the multiple levels of niches, regimes and landscape will take place. For instance, positive feedback loops can be created in which niches create niche-regimes that are able to force a breakthrough in the status quo and establish a new regime or form a new dominant coalition. These interactions take place over multiple phases and of course have different outcomes. Success or failure thus depends on the ability of actors to mobilize political resources. This determines the relative power between niches and regimes.

Structure-driven theory takes a different route to explain changes in policy outcome. Landscape changes form a pressure on the issue network to react. It is the different structures of the network (in terms of actors and their ties to each other) that determine the failure or success of the issue network to respond to certain inputs. They do not completely deny the importance of different (groups of) actors, but state that an important part of the success or failure of these actors actually depend on some structural characteristics. This means that actors that might be successful in Germany would probably not be successful in the Netherlands due to differences in network characteristics. These characteristics are for instance network closure that leads to a better adaptability of the network; heterogeneity that leads to better resource mobilizations; fragmentation of power that defines potential for change; and the type of interactions that leads to the specific form and extent of policy change.

3.2 Hypotheses

Structure-driven Theory

The hypotheses below are formulated based on the work of two different researches. I have chosen to use both, as it is my opinion that they can complement each other. The first two hypotheses are based on the work of Sandstrom and Rova (2010). Their approach is highly formalized and therefore attractive for a more quantitative research. Hypotheses three and four are based on the work of Adam and Kriesi (2009). They have also formulated some concrete hypotheses, but they are better suited for a more qualitative approach. Although there might be some overlap in hypotheses, it is my opinion that it will be valuable to test all four hypotheses as they use different approaches which may lead to more and better insights.

- (1) If there is more network closure, then there is a better adaptability of the network and a greater potential for policy change
- (2) If there is more network heterogeneity, then there is a better adaptability of the network and a greater potential for policy change
- (3) If power is more fragmented, then there is a greater potential for change
- (4) If the type of interaction is conflictual/bargaining/cooperative, then policy change will be rapid/incremental/remain status quo.

Agency-driven theory

The four hypotheses for agency-driven theory have as a common denominator that they all aim to test the ability of actors to mobilize resources in order to change underlying power relations. This is the basic assumption of the transition theory discussed in the theoretical framework. However, this theory did not formulate any concrete hypotheses about the policy process in specific. Therefore, this research will use the power

framework of transition theory to test hypotheses derived from the more policy-oriented theories of PE, ACF and MS.

Based on punctuated equilibrium

(5) If regimes have a lot of constitutive power, then there will only be room for status quo or incremental change in response to an open policy window

Based on advocacy coalition framework

(6) If policy entrepreneurs have a lot of innovative and/or destructive power, then *incremental* policy changes are more likely to happen as they have the possibility to generate policy oriented learning within the dominant coalition.

(7) If policy entrepreneurs have a lot of transformative power, then larger policy changes are more likely as it may lead to the replacement of the dominant coalition by a minority coalition.

Based on Multiple Streams

(8) If actors have a lot of systemic power, then they have more influence in the policy outcome.

4. Research Approach

This section will explain the steps of my research by clearly defining and operationalizing the different variables. The research will be split up in a structure analysis looking at the constellation of the policy networks, and a agency analysis that will look at how individuals mobilize resources within this network.

4.1 Structure Analysis

4.1.1 Informal and formal network analysis

In my opinion, a distinction can be made between an *informal* and a *formal* network analysis. Informal network analysis – often used in political science – does not contain any structural research, but only performs a *qualitative* research in which it explicitly defines and identifies the structural characteristics of a policy network. The data is often collected through archival records and interviews with key-experts.

The formal network analysis is based on Social Network Analysis (SNA). Social Network Analysis conducts a more *structural* research of networks. This is done by actually (visually) reconstructing networks as precise as possible, based on data of direct actor interactions. This data is often collected by a combination of archival records, (semi-structured) interviews and questionnaires, but has an emphasis on the last two methods. The advantage of a formal network analysis is that it allows testing more formalized hypotheses identified in the previous chapter.

A reason why political scientists often do not conduct a formalized structural research is that it is complicated to retrieve all relevant data in order to make a proper formal network analysis of a policy network based on the SNA method of direct actor interactions. This is *especially* the case when wanting to research a policy network in history. To circumvent this problem and still make a formal network analysis, I propose to reconstruct a policy network using APES.

4.1.3 Actor-Process-Event-Scheme (APES)

With the help of APES (Actor-Process-Event-Scheme) a network analysis can be made that is not based on direct actor interactions, but on a qualitative case study using the following three elements: all relevant events in the policy process, the actors participating in these events, and the role of the different actors during a particular event (leading, active, or passive). The data can be collected through a combination of a literature study, archival records and interviews with key experts.

The final result of APES, namely a network of the issue domains, gives the possibility to perform a formalized structural network analysis. The results allow performing formalized hypotheses based on Social Network Analysis – such as hypotheses based on calculations of heterogeneity and closure. APES does also allow testing the slightly less formalized hypotheses based on the works of Adam and Kriesi (2009).

4.1.4 Testing the hypotheses

(1) If there is more network closure, then there is a better adaptability of the network and a greater potential for policy change

The independent variable of network closure can be investigated using two measures: density and centrality. Density refers to how many connections the issue network has and

can be calculated by dividing the number of connections present in the network by the maximum number of possible connections:

$$\frac{l}{n(n-1)/2}$$

l = the number of links

n = the number of actors

This means the higher the number, the higher the density of the policy network. When network links are valued, this means density says something about the average tie strength. As a result, values can be higher than one (Hanneman and Riddle, 2005).

Centrality refers to what extent these connections are indirectly channeled through a single actor and can be calculated by the numbers of direct links to and from an actor, giving the actor with the most links the highest centrality score. By summing the individual results, the degree of centrality for the policy network as a whole can be reached. Expressed in a formula:

$$C = \frac{\sum_{i=1}^g [C(n^*) - C(n_i)]}{\max \sum_{i=1}^g [C(n^*) - C(n_i)]}$$

$C(n^*)$ = the centrality of the most well-connected individual,

$C(n_i)$ = the centrality of the i^{th} individual, and maximum is taken over all possible connections with g actors.

The higher the number, the more centrality there is in the policy network.

The dependent variable, namely the adaptability of the network, will be defined as the ability of an issue network to come with effective policies supporting renewable energy in respond to landscape changes.

(2) If there is more network heterogeneity, then there is a better adaptability of the network and a greater potential for policy change

The independent variable of this hypothesis, heterogeneity, reflects how many different organizations and/or sectors are represented in the network and to what extent collaboration takes place among people with different affiliations.

It can be measured in two steps. First, actor diversity has to be measured by identifying how many different types of organizations are represented in the network. For this research, it is especially relevant to look at representation of the societal niche and/or regime players. However, a diversified portfolio of actors alone is not enough, as this does not necessarily imply that these actors exchange resources, knowledge, perspectives, etc. The second step will be to establish the different cross-boundary exchanges, meaning the proportion of links connecting niche, regime, and other actors. This can be calculated by dividing the number of links connecting actors with different organizational belongings (cross-boundary links) by the total number of links in the network (Sandstorm and Rova, 2010). In a formula:

Cbl

L

Cbl = cross-boundary links
l = number of links

A higher outcome means a highly diversified network with many relations between the different actors. Such a network can be regarded as more heterogenous.

(3) If power is more fragmented, then there is a greater potential for change

The dependent variable of power fragmentation is more difficult to formalize than with hypotheses one and two. Adam and Kriesi (2009) propose to use positional, participation-based and reputational indicators. I propose the combination of two variables to measure the fragmentation of power, namely centrality (positional) and heterogeneity (participation-based), in which a highly fragmented structure is characterized by a heterogeneous group of actors with a low centrality score. Additionally, a reputational indicator will be added using a more qualitative analysis of the data. This will determine whether individual actors have the reputation to defend the interests of either regime or niche players.

The independent variable, potential for change, will be measured in the same way as was done with hypotheses one and two.

(4) If the type of interaction is conflictual/bargaining/cooperative, then policy change will be rapid/incremental/remain status quo.

Identifying the type of relations (bargaining, cooperative or conflictual) will be researched in a more qualitative manner, making use of data received during the field research. Status quo can easily be defined as displaying no change. Whether the policy change can be called rapid or incremental will be not be an absolute value, but relative.

4.2 Agency Analysis

To find out how the different actors mobilize resources to shape underlying power relations, the following approach is taken. The first step is to identify the relevant (groups of) actors, this is done in chapter six. The second step is to make an analysis of the different strategies these actors undertook to mobilize their resources and gain power. In other words, how did they try to acquire the different political resources identified by Sabatier (2009)? The third step is to see what the aim of the strategy is. Is the power obtained constitutive, innovative, destructive or transformative? Finally, a remark will be made about the effectiveness of the strategy applied.

This approach will make it possible to test the hypotheses of how actor-driven theory expects that resources are mobilized, given a policy outcome. They therefore form a solid basis for this qualitative analysis, making it possible to compare between the Dutch and German issue domain *if and to what extent* actor characteristics (i.e. their resources and ability to mobilize them) have played a role in the policy process.

5. Development of RE capacity and RE policy making

This chapter discusses the development of renewable energy and the policies supporting RE in the Netherlands and Germany. Section 5.1 gives an overview of the energy transition pathways in the Netherlands and Germany based on the type of renewable energy generated, the amount of production capacity installed, and its share in the overall energy and electricity supply between 1990 and 2010. Section 5.2 gives an overview of the policies in support of renewables. Based on this, section 5.3 will identify the crucial moments that determined the development of renewables in both Germany and the Netherlands.

5.1 Development of RE capacity in the Netherlands and Germany

In order to perform an analysis of the factors that triggered change, it is of course important to know when this change was actually set in motion. In other words, to determine which policies did or did not lead to a transition to renewable energy sources, it is important to understand when and how a transition actually took place. This section will give such an overview based on the amount of production capacity of renewables and its share in the overall energy and electricity supply between 1990 and 2010. The data used for the Dutch and German numbers are derived from recent reports of respectively CBS (2011) and BMU (2011).

Rotmans (2005) defines a transition as a non-linear processes of social change in which a societal system is structurally transformed. This means transitions are not only about technological change, but take place in the larger socio-technical realm. Therefore, Verbong and Geels (2007) make a distinction between renewables that fit within the old socio-technical system of fossil fuels, and renewables that are part of an actual transition – both in the technical and societal sphere. The biggest representative of the first group is biomass, as it is most often used to co-fire coal plants or to be blend in with fossil fuels. Wind and Solar energy are the most relevant representatives of the second group. The fact that they cannot be combusted together with their irregular supply and decentralized way of production, wind and solar energy ask for an actual socio-technical transition.

Hydropower is, especially in Germany, a significant source of renewable energy as well and is for the sake of completeness included. As it has already reached its full potential in both countries (disregarding future possibilities for wave energy) it will not be subject to extensive further analysis in this research.

Table 1: Renewable energy sources as a share of energy consumption

	1990	2000	2010
The Netherlands	1,1	1,4	3,8
Germany	1,9	3,8	11,3

Table 2: Renewable energy sources as a share of electricity consumption

	1990	2000	2010
The Netherlands	0,9	2,5	9,1
Germany	3,1	6,4	17,1

The above tables show the share of renewable energy sources in respectively the nation's energy and electricity consumption. It shows that in 1990, both countries had a very limited share. In Germany, this share was a bit higher, but this can be explained through the German potential for hydropower that accounted for 91 percent of its renewables at

the time. The Netherlands do not have this potential. Its share in 1990 could be largely (80 percent) contributed to biomass. Solar and wind played marginal roles in both countries.

Between 1990 and 2000, the share of renewables grew, but still played a marginal role in the overall energy and electricity supply. The growth in Germany was slightly higher (an additional 1,9% in the energy share, and an additional 3,3% in the electricity share) than in the Netherlands (an extra 0,3% and 1,6% respectively). For both countries, the biggest growth took place between 2000 and 2010. Again, Germany shows a bigger growth than the Netherlands, resulting in a renewable energy and electricity share of 11,3 and 17,1 percent respectively. The Netherlands has been performing less well, with shares of 3,8 and 9,1 percent.

Table 3 and 4 break this overall share of renewables up into the different sources. This is important as we made a distinction between renewables that are part of an actual energy transition (wind and solar) and renewables that fit better within the old socio-technical regime of fossil fuels (biomass).

Table 3: Relative share of different renewable sources in % of the total renewable electricity supply in the Netherlands

The Netherlands	1990	2000	2010
Biomass	80,4	63,1	60,0
Wind	7,8	31,3	38,4
Solar	0	0,3	0,6
Hydro	11,8	5,3	1,0

Table 4: Relative share of different renewable sources in % of the total renewable electricity supply in Germany

Germany	1990	2000	2010
Biomass	1,4	8,2	32,5
Wind	0,4	21,3	36,2
Solar	0	0,2	11,2
Hydro	98,2	70,3	20,1

The tables show that in Germany, growth in renewables between 1990 and 2000 were mainly caused by an increase in hydropower and wind. In fact, wind capacity increased with almost 7.500 Gwh, a factor three more than the increased biomass capacity that expanded with just over 2.500 Gwh (BMU, 2011). In the Netherlands, growths in renewables in this same time period were to a large proportion driven by an increase in biomass, and to a lesser extent by wind. Solar only played a minor role in both countries.

Between 2000 and 2010, a similar pattern can be recognized. Increased capacity in the Netherlands is largely caused by increased capacity of biomass, and to a lesser extent wind. Solar is still of little importance. In Germany, growth is much more diversified, with also solar becoming of real significance.

Table 5: Relative share of different renewable sources in % of the total renewable electricity supply in the Netherlands and Germany in 2010.

	The Netherlands	Germany
Biomass	60,0	32,5
Wind	38,4	36,2
Solar	0,6	11,2
Hydro	1,0	20,1

Table 5 shows the result of this pattern. In 2010 Germany has a much more diversified portfolio, whereas the Netherlands has a strong emphasis on biomass.

This trend has continued in the last 18 months. The Netherlands saw a slight increase in renewable energies, 9,1% to around 10% of electricity supply (CBS, 2012). This was largely due to a growth in biomass and waste incineration. In Germany, more than 25% of all electricity was generated by renewable sources over the first six month of 2012. This was largely due to an increase in wind- and solar power (BDEW, 2012).

Conclusion

In 1990, both the Netherlands and Germany had an almost negligible share of renewables within their overall energy and electricity supply. In 2010, Germany has shares of 11.3 and 17,1 percent respectively, while the Netherlands is trailing with much more modest shares of 3,8 and 9,1 percent. Moreover, both countries build up quite a different portfolio. In the Netherlands 60% comes from biomass, while solar does not play a significant role. In Germany, a more balanced portfolio is created in which both wind and solar are important. Therefore, the transition in the German energy system is not only much further in terms of quantity, it also places more emphasis on the 'transition renewables' of wind and solar. Recent trends show that the transformation process in Germany is in full swing, while the Netherlands is still in a very early phase.

5.2 Development of RE policy in the Netherlands and Germany

After the first oil crisis in 1973, many countries started to develop policies in support of renewable energy. In the beginning, policy in both Germany and the Netherlands was restricted to R&D investments. The nature and the effect of the policies were similar and in the 1980's, both countries were leading in terms of R&D investments. The Netherlands had even a higher per capita investment rate, although German total investments were higher. Nonetheless, R&D investments in renewables were only a fraction of what was invested in nuclear R&D (Jacobsson and Lauber, 2006). During the 1980's, some policies also aimed at providing direct investor subsidies and financing demonstration projects. Still, renewable energy played a marginal role in both countries, and no policies made a serious attempt to change this (a.o. Agnolucci, 2004; Duyvendak, 2011; van Rooijen and van Wees, 2006; Jacobsson and Lauber, 2006; Lauber and Mez, 2005; Weidner, 2008).

In the late eighties, several developments brought attention back to the topic. The nuclear disaster in Tsjenobyl convinced many people that renewable sources must be taken seriously in national energy supply strategies and the Brundtland report on sustainable development showed that environmental concerns and societal progress can be linked. The successes in dealing with acid rain and CFK's created a strong believe among policy makers that greenhouse gasses would just be another environmental concern that could be tackled with effective legislation (Duyvendak, 2011). As a result, over the last decades a variety of policy instruments dealing with renewable energies have been implemented in both the Netherlands and Germany. However, where policies between 1973 and 1990 have been quite similar, both countries came to very different policy outcomes from 1990 and onwards. An overview of these periods for both countries will now be given

5.2.1 RE policy in the Netherlands: 1990-2012

The support system for RE in the Netherlands can be characterized by the numerous instruments chosen and by the several changes in the details of the policies (Agnolucci, 2004). Three periods can roughly be identifies, namely voluntary targets (1990-1996), the

promotion of demand (1996-2003) and the promotion of supply (2003-2012) (van Rooijen and van Wees, 2006).

1990-1996: BES, voluntary targets

In 1990, the Dutch government ratified the BES (Beleidsplan Energiebesparing en Stromingsbronnen; policy on energy savings and electricity sources). The policy consisted of a negotiated voluntary agreement between the government and the energy distribution sector. The latter promised to commit themselves to energy savings and voluntary sales targets for RE amounting to 3,2% of electricity and 0,7% of gas sales by the year 2000. In return, the government would provide subsidies for the realization of these targets, paid for by a general environmental levy. The voluntary targets were never realized (van Rooijen and van Wees, 2006).

1996-2003: REB, promoting demand

In 1996, the government introduced the REB (Regulerende Energie Belasting), a regulatory energy tax. This so-called 'ecotax' was introduced to stimulate demand for RE, as renewables were exempted from the tax. It was combined with a production support to green suppliers, but had an emphasis on the promotion of demand. In 2002, total support to RE amounted to eight eurocents per kWh. 6 cents in the form of a tax exemption, and 2 cents in production support. Important to note is that the REB only applied to small- and medium-scale energy users; industry was not affected (van Rooijen en van Wees, 2006).

The liberalization of the energy market caused a sharp increase in demand as well. Since 2001, electricity companies are allowed to compete with each other on green electricity. Subsidies in the form of the REB tax exemption made sure that there was virtually no price difference between conventional grey and green electricity. As a response, the now competing electricity companies have used green electricity as a marketing tool to keep and attract customers. As a result, the number of green consumers has increased from 16.000 in 1996 to 1,4 million in 2002 and almost 3 million in 2004 (Duyvendak, 2011).

The steep increase in demand did not lead to a similar increase in production. This is because the subsidy did not differentiate between electricity generated domestically or abroad. Research showed that because of this, the policy did not lead to a significant increase in production capacity abroad as all imports came from already installed capacity, for a great part Scandinavian hydropower. (Agnulocci, 2008; van Rooijen en van Wees, 2011; Duyvendak, 2011).

2003- 2012 MEP and SDE: promoting supply

Revisions of the policy lead in June 2003 to the MEP (Milieukwaliteit Elektriciteitsproductie), the environmental quality of electricity production. In order to prevent subsidies from leaking abroad through the REB, the MEP provided a direct subsidy in the form of a feed-in tariff (FIT) to producers of renewable electricity. The height of the FIT had to be determined every year, and was directly paid out of that year's government budget. At the start, it was set at of 7ct per kWh. Due to its success, the FIT was imposing too much pressure on the government budget and was frozen in May of 2005. In 2006, the new FIT was set at Euro 0,00, effectively killing the policy (Duyvendak, 2011). The policy returned in 2009 with a different name: Stimuleringsregeling Duurzame Energieproductie (SDE). The SDE is very similar to the MEP, with the big difference being that it has a pre-determined subsidy ceiling. In 2011, this policy also came to an end.

5.2.2 RE policy in Germany: 1990 – 2012

As a reaction to changing policy landscapes, Germany – unlike the Netherlands – took direct measures for market creation in 1989 in the form of the 100MW (later 250MW) wind program and the 1000 solar roof program, providing reduced loans and guaranteeing investments (Lauber and Mez, 2005). However, the most important piece of legislation came one year later.

1990-2000: StrEG, first feed-in tariffs

In 1990, the parliament implemented the StrEG (Stromeinspeisungsgesetz), a feed-in law that required electricity companies to connect RE plants to the grid, and to buy the electricity it fed back to the grid at predetermined rates (depending on the energy source). The extra costs were not covered by the government budget, but were transferred to the consumers' energy bill. This led to a first boom in wind energy. Installed capacity for solar power grew less rapidly, as its high costs were not covered by the FIT at that moment of time (Lauber and Mez, 2005). Nevertheless, together with the 1000 solar roof program, these policies did help in the support and keeping alive of an emerging market (Weidner and Mez, 2008).

2000-2012: EEG, feed-in tariffs continued and strengthened

In 1999, due to its success, the 1000 solar roof program was extended by a new 100.000 solar roof program. Soon after, the StrEG of 1990 was revised and improved in 2000, now named the EEG (Erneubare Energiegesetz). The biggest reform was that new rates were set and fixed for twenty years, based on the year of installment, a guarantee that before did not exist. This guaranteed rate would decrease every year as technological improvements are expected to make renewables cheaper over time, and to give an incentive to install extra capacity now rather than next year. Furthermore, regional inequalities were dismantled by spreading the burden of the FIT's nationally rather than regionally. A third important aspect is that utilities could now also claim FIT's. After the first wind boom of the 1990's, these reforms led first to a second wind boom and thereafter a first solar boom (BMU, 2011).

The EEG has been under revision a couple of times since. In 2004, an amendment was adopted that changed the rates for specific technologies, decreasing rates for onshore wind but increasing rates for biomass and solar. In 2009, the EEG came under pressure, as renewables remained booming through the entire decade. Eventually, small reforms were adopted in 2011. No cap on production capacity would be installed, but the frequency and extent of the “degressions”, the periodic reduction of feed-in tariffs, has been increased (Bosman, 2012). Tariffs remained high enough, leading to a record newly installed production capacity in 2011. At present, the EEG is again under revision and almost even cancelled in spring this year (Guardian, 2012). However, the policy is still in place as the cancellation was blocked by the senate. Meanwhile, renewables and especially solar continue to boom. (Fraunhofer Institute, 2012).

Conclusion

Over the last two decades, policy making in support of renewables in the Netherlands can be characterized by a variety of policy strategies and instruments changing over time, leading to an opaque and confusing support system that lacks long-term stability. The German storyline on the other hand is much simpler and quite straightforward. A combination of measures for market creation together with a FIT has created a stable and attractive investment climate. The result is clear: with similar geographic potential, the Netherlands is lagging in Europe while Germany became a world leader.

5.3 Identifying the crucial moments

The central research question of this thesis is to find out why policies in support of an energy transition came about in Germany, and not in the Netherlands. In order to answer this question, one must first identify crucial turning points in the transition process. Looking at the hard figures of installed capacity as discussed in section 5.1, it seems that a crucial point has been in the early years of the new millennium. However, the analysis of the policy development shows that another crucial point is around 1990, the moment when Germany and the Netherlands started to take completely different policy decisions. Many authors stated that the 1990's – although not resulting in large amounts of installed capacity – were crucial in the development of Germany's success story (among others: Scheer, 2006; Jacobsson and Lauber, 2006; Lauber and Mez, 2005; Weidner, 2008; Duyvendak, 2011). Therefore, one cannot separate this from each other, as both moments are part of the same storyline.

The theoretical framework stated that a network analysis within a agency-structure research must be performed at least twice, both in a different time period, in order to analyze the interrelations between agency and structure over time. Consequently, both the structure and the agency analysis will be performed for the two crucial moments in both countries that were identified in this chapter. These are the StrEG of 1990 and the EEG of 2000 in Germany, and the BES of 1990 and the MEP of 2002 in the Netherlands.

6. Overview of the main actors

An important first step for both the structure and agency analysis is to identify the actors that participated in the policy process. In this chapter, actors are identified who played an important role in the energy issue arena over the last three decades. The (groups of) actors listed are derived from theoretical literature and existing documentation about the two cases. Special attention is given to de Jong (2005) and Lauber and Mez (2004) who, for the Netherlands and Germany respectively, give an elaborate overview of all public and private actors engaged in the energy policy issue arena.

In both countries, many actors became involved in the policy arena during the late eighties, leading to a lively and pluralistic issue arena. This was a new development, as energy policy in the sixties and seventies was characterized by a very technocratic process that mostly took place within the ministries and advisory boards (De Jong, 2005). Jacobsson and Lauber (2006, p271) go so far as saying that in Germany, the choices for nuclear and coal made in response to the oil crises of the seventies were “*imposed in an authoritarian fashion by Chancellor Helmut Schmidt*”.

I divided the actors into four different actor groups, namely public-administrative actors, independent bodies, regime players and niche players. This categorization is partly derived from Magetti (2007), with the only difference that I divide ‘societal actors’ into two groups i.e. regime and niche players – an important element of the energy issue arena.

Public-administrative bodies

Central in the governance debate is that policy does not only come from ‘the government’. Important to add is that ‘government’ itself cannot be seen as one unified actor. Separate actors play a different role in the policy process. One could identify many different actors within government, from special workgroups within a ministry to parliamentary committees, individual political parties and high-ranked civil servants. To simplify matters, I identified five groups of actors that can be considered most relevant for this policy process. These are (1) *Government*, (2) *Parliament*, (3) *Ministry of Economic Affairs*, (4) *Ministry of the Environment*, and (5) *Provinces/States and municipalities*

Independent Bodies

Independent bodies such as research institutions, universities and advisory boards play an important part in both the Dutch and German policy process, as they enjoy a high level of institutionalization. This is especially the case in technocratic fields such as energy policy. When dealing with technical issues, these bodies often are decisive. Expertise of these independent institutions can also be employed to obtain the necessary societal of political support, or to give counterweight to possible unwanted adjustments to current policy. In all cases, it is an effective way to obtain external legitimacy (De Jong, 2005).

Other important members in this group are those actors that are not a part of the government, but are also no regime or niche players. They are often semi-public institutions that have executive tasks. Relevant actors in this category are electricity network operators and law implementing bodies.

Regime Players

Regime players are those actors in society that benefit most from a status quo. In the case of energy policy, it is possible to create an endless list of all parties with vested interests. However, these actors can be generalized into two groups. The first group consists of those actors that are active in the *conventional energy sector* themselves. In the Netherlands and Germany, the energy sector is dominated by a few big conventional energy

companies that are well represented in the policy process. Sometimes individually, sometimes through specific interest organizations. The second group consists of the *energy intensive industry*. The biggest industrial companies sometimes lobby under their own name, but they are often represented by *employers' organizations*.

Niche Players

Niche players are those actors that seek to overthrow the current regime in order to obtain power themselves. Again, a long list can be given of niche players (who try to become) active in the energy policy process. I have divided them into four groups. First, there are of course the *RE companies*, represented by interest organizations. The second group is that of the *RE related industry*. This is industry that benefits from a growing market for RE – such as steel production. Similar to the energy intensive industry, they are represented by *employers' organizations*. *Labor Unions* are considered a separate niche player. Although their interest is similar to that of the RE industry and its employers' organizations, its character is so different that it should be treated as a separate group. The fourth group is that of the Environmental Organizations.

Political-administrative Actors
Government
Parliament
Ministry of Economic Affairs
Ministry of the Environment
States/Provinces and Municipalities
Independent Bodies
Independent Research Institutions
Electricity Network Operator
Law Implementing Bodies
Regime Players
Conventional Energy Sector
Energy Intensive Industry
Niche Players
RE Companies
RE Related Industry
Labor Unions
Environmental Organizations

7. Structure Analysis

This chapter consists of the structural research of this thesis using a network analysis. With the help of APES (Actor-Process-Event-Scheme) a network analysis can be made that is not based on direct actor interactions, but on a qualitative case study using the following three elements: all relevant events in the policy process, the actors participating in these events, and the actors having formal responsibility in/for the process.

The basic assumption of APES is that *a political process consists mainly of a sequence of linked events in which a variety of actors from public and private organizations are engaged* (Hirschi et al., 2005, p4). These actors try to influence policy- and decision makers over the course of the policy cycle. This is similar to the idea of actor-event networks or affiliation networks from Social Network Analysis (SNA) (Wasserman and Faust, 1994). Therefore, the participation of political actors in a political event can be regarded as a good indicator to operationalize the structure of a political process in terms of a policy network (Serdült and Hirschi, 2004; Hirschi et al, 2005).

APES provides a method to systematically gather information about a) actor participation in the policy process, b) crucial events in the policy process under investigation. By giving actors a leading, active or passive role in an event, participation can be weighed. The result is a graphical representation that can be transformed in actor-event or actor-actor matrixes. This then makes it possible to create a visual representation of the network or perform some simple calculations derived from SNA.

a) Actor participation in the policy process

The actors have already been identified in chapter six.

b) Crucial events in the policy process

The next step is to partition the policy process into a number of crucial events. APES bases this on the concept of the policy cycle that divides the process into a number of stages from agenda setting to implementation and evaluation. It is not necessary to take all stages into consideration; one could also study a part of the policy cycle. Important is that these stages have to be concretized and adjusted to empirically observable events (Serdült and Hirschi, 2004). This means that the researcher in its identification of crucial events is dependent on the data available. If events are concretized better, the representation of the policy network is likely to be more accurate. This is not to say that an APES-scheme with less concrete events is wrong. Nonetheless, the researcher must be aware of the fact that it is less accurate and conclusions will consequently be weaker.

Ideally, all *actual and concrete* relevant events and actors participating should be identified, making it possible to reconstruct an affiliation network. At first, this was thought possible based on data retrieved in the Dutch national archive: a complete dossier on the policy process of the national environmental action plan (NMP) of the government in the late eighties (VROM, 1990). However, the archives received about the relevant pieces of legislation were less complete than this dossier, or only partly accessible (EZ 1990; EZ 2003; BMU 2004; BMWi 1990). In addition, the data received in both countries is not symmetric. More primary data is available for the Dutch case since it was possible to make a request for openness of governance (WOB, Wet Openbaarheid Bestuur). The same procedure was not possible in Germany, as it would cost too much time and money. Ultimately, it was possible to see some non-released documents at the German ministries themselves. Although this information was useful, it did not have the level of detail that was provided by the Dutch ministry. However, both the StrEG and EEG have – due to their success – been subject to many qualitative case studies. The quality and especially the level of detail of this research are much greater than secondary

data for the Dutch case. Special attention should be given to Kords (1993) and Bechberger (2000) who give a comprehensive overview of the policy process for the StrEG and the EEG respectively. This provided information that could match the level of detail of the Dutch data. Nonetheless, this data is retrieved in asymmetric fashion. This is something that must be kept in mind, and I will return to this when testing the structural hypotheses.

To overcome this problem of not being able to retrieve all *actual* and *concrete* events, I took the approach of Magetti (2007) and Parag (2006), who define events as stages in the policy cycle. Andeweg and Irwin (2005) present a good overview of the decision-making process based on the policy cycle. From this, the following sequence of events can be identified: 1) Agenda setting; 2) preliminary investigations; 3) working out the draft; 4) consultation; 5) draft modification; 6) decision. This sequence fits the data I retrieved through the archival records and literature study for both countries and will therefore form the framework that helps to identify the crucial events in the policy process using APES. In the case of ambiguities and/or blank spots in the data, interviews with key experts helped to clarify and/or fill these.

By stepping away from actual events to stages in the policy cycle, one issue arises that must be addressed. By linking actors to events, APES is based on an affiliation network, assuming that when actors participate in the same event, they will have some direct contact with each other. In the case of *concrete* events this makes perfect sense, but when dealing with phases of the policy cycle one cannot assume that all actors active in, for instance, the consultation phase did physically meet and can therefore be connected with each other. In fact, in quite a few instances, data shows that actors in the same event did not participate together directly.

Nevertheless, I will treat this network still as an affiliation network. The reason for this is that it is very plausible that when two actors participate in the same event, e.g. agenda setting, that they anticipate each other. Consequently, their strategies are affected by the joined participation of two actors in the same event, whether they had direct contact or not. This reaffirms the assumption of affiliation networks. The meaning of such an 'interaction' between actors is of course not as significant as two actors that do directly interact with each other. The beauty of APES is that it takes this into account by differentiating between leading, active and passive participation. For example, a leading actor will always have direct contact with all the other actors, but with passive participation this is not the case. As a result, a lower value is given to the passive participant.

In the next sections, a structural network analysis will be conducted using the typology of actors and crucial events described above. This will be done four times, namely for the Dutch policy networks dealing with the BES of 1990 and the MEP of 2003 and the German policy networks dealing with the StrEG of 1990 and the EEG of 2000.

7.1 APES of the Dutch BES of 1990

1. Agenda Setting

The policy window completely opened during the late eighties. Both the government and parliament were convinced about the necessity to deal with the environmental issues at stake, and positive about the opportunities to solve them. In fact, it became one of the central themes of the elections in 1988 (Duyvendak, 2011). Environmental organizations became very active in addressing the consequences of 'the CO²-problem' directly to the politicians in The Hague (Pleune, 1997). However, concerning energy policy specifically, the ministry of economic affairs (EZ) took no action in this direction. It was the ministry

of environment (VROM) that took the lead in this phase. VROM developed an extensive and progressive national environmental policy program, the NMP. In this policy program, attention is also given to energy savings and sustainable energy. An explicit request of VROM brought the environmental aspects of energy policy to the agenda of EZ. Hereafter, EZ started to actively set the agenda for reviewing their energy policy concerning efficiency and renewables.

In both the secondary literature and the archives of EZ (1990), there are no records of explicit agenda setting by interest organizations. A web search shows that some of these organizations were already active during this period, but apparently they did not succeed in making an impact. De Jong confirms this view by saying that *“the interest of sustainable energy did not play a role, their economic relevance was simply insignificant.”* Thus the BES was set on the agenda by EZ due to activities of VROM that made environmental issues more central in energy policy.

2. Preliminary Investigations

Although VROM wanted influence in energy policy, EZ was not about to give up its authority over this portfolio. They therefore claimed the issue and led the preliminary investigations and started a working group together with NOVEM (law implementing body), ECN (independent research organization), and VROM. These are the active actors. Furthermore, ad-hoc consultations took place with (energy intensive) industry and conventional energy companies (interest organizations VEEN, VEGIN, and VESTIN for respectively electricity, gas, and urban heating companies).

3. Working out the draft

Again, EZ took the lead in writing a first draft. The conventional energy companies claimed an active role in this process. They came with their own environmental policy plan, and presented this to EZ. Many consultations and meetings took place between these parties. VROM wanted more influence and tried to become actively involved in the writing of this draft. However, EZ won this power struggle and kept VROM from active participation. Nonetheless, they remained a part of the process and contributed for instance by bringing in parts of the already written NMP that could fit in the BES, making the policies more coherent. Their participation can therefore be understood as passive.

4. Consultation

After the draft was completed, an broad consultation round took place. EZ invited a great number of societal actors to react. The following records were found (EZ, 1990): VROM, SEP (electricity network operator), law-implementing body NOVEM, the independent research institutions ECN and the Algemene Energieraad (General Energy Council), interest organizations for the conventional energy companies, employers' organizations VNO and NCW (representing industry), and environmental organization Natuur & Milieu.

5. Rewriting the draft

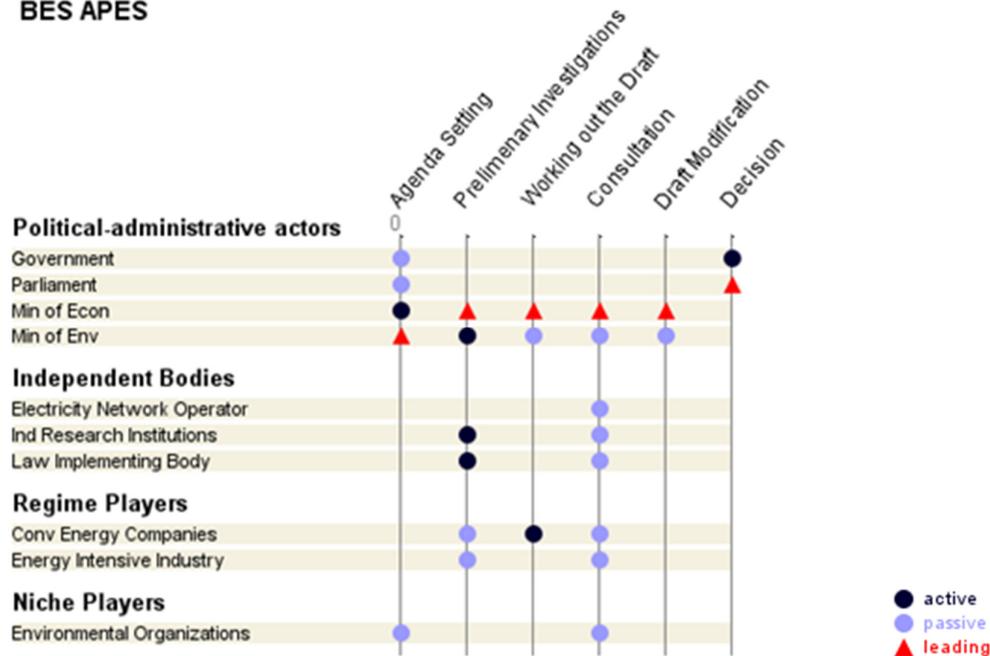
In the final phase, EZ rewrote the draft mostly internally and only involved VROM to make some adjustments and get their support.

6. Decision

It is interesting to see that the parliament was only mentioned the day before the BES would become public. The particular documents even literally states ‘make sure the energy experts of the parliament get the final document one day before the media does,

so they know what it is about and can answer questions'. Not much later, the government brought the policy to parliament, where it was adopted.

BES APES



7.2 APES of the Dutch MEP of 2003

1. Agenda Setting

Chapter five showed that an important reason for the MEP to come about was the leakage of subsidies abroad due to the regulating energy tax (REB). Therefore, agenda setting did not take place within a broad societal discussion but mostly within the issue arena and for a great deal even within the ministry of economic affairs. A newspaper search of this time shows that there is one article of a research journalist, and a press statement of interest organization EnergieNed dealing with the issue before the ministry announces it will change the REB due to excessive subsidy leaking (ANP, 2002; Vos, 2002). The announcement EZ and the ministry of finance (FIN) came shortly after the general elections of that year, making it an issue in the coalition negotiations. As a result, the strategic agreement of the new government of CDA, VVD and LPF explicitly referred to a reform of the REB. Even after this announcement, most actors remained inactive in the process – or, more likely, did not get any access to it – until the first draft provided by EZ in the fall of 2002

The archive show that the statement in the coalition agreement about the necessity of the evaluation of the REB was the most important reason for the law to be revised (EZ, 1990). I consider the government therefore to be the leading party in this event. An active role is given to EZ, while FIN and the conventional energy producing companies are only given a passive role.

2. Preliminary Investigations

EZ took initiative in this phase. The files of the ministry talk about intensive and constructive deliberation with the network operator TenneT, who is given an active role. There was also some consultation of the branch organization for big energy producers

EnergieNed, who is given a passive role. Apart from this, investigations are done within the ministry, and are mainly based on research of the different systems (quota or feed-in tariffs) used in other European countries.

3. Working out the draft

The first draft is developed by EZ, with a supporting role for FIN. This is done in cooperation with network operator Tennet and Senter, the policy implementing body of EZ. Independent research institution ECN also took part in this process.

4. Consultation

Market players other than those represented by EnergieNed are for the first time informed in November 8th, 2002 in a plenary session hosted by the ministry of economic affairs. Representatives of all parties that worked on the draft (FIN, Tennet and ECN) were present to answer questions and are given a passive role. The importance of this phase must not be overestimated. The meeting lasted for only three hours and there were over 120 representatives. They are not explicitly named in the records of this meeting. Some follow-up consultations took place later this week. These parties were named, and can be categorized as follows. EnergieNed represented the conventional energy companies. Umbrella organization De Koepel and some individual interest organizations represented the sustainable energy companies. VNO-NCW represented the energy intensive industry. Finally, environmental organization Natuur & Milieu also took part. They are all considered passive participants. On a different occasion later that week, the energy experts in the parliament were extensively consulted and hence are given an active role.

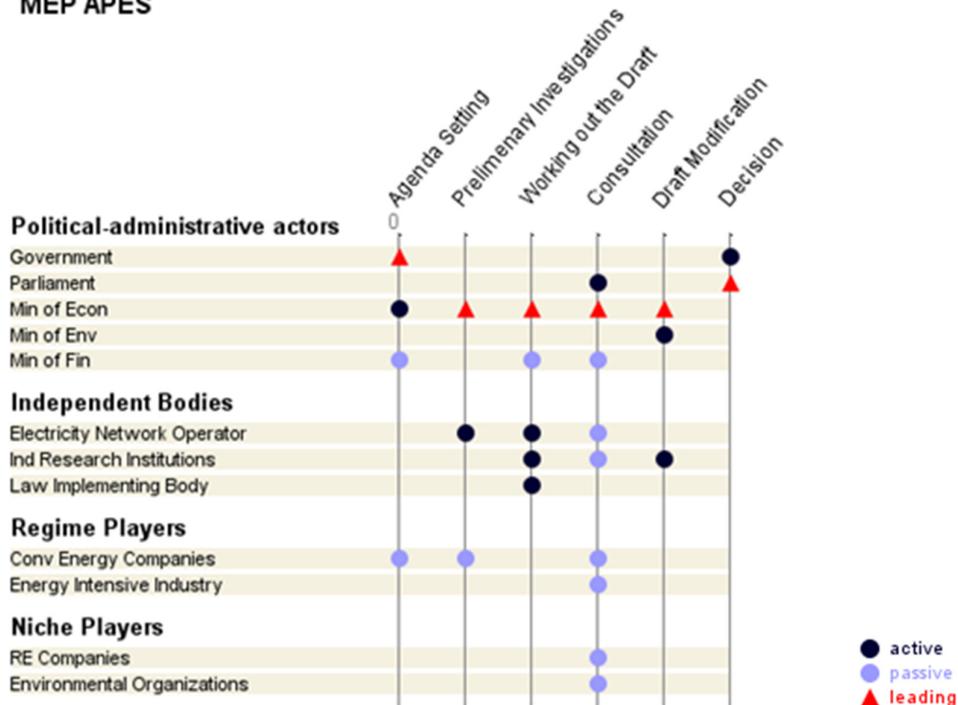
5. Draft modification

With the input of the market players and the members of parliament, EZ worked on a modification of the draft together with the independent energy research institution ECN and VROM, who for the first time actively took part in the process.

6. Decision

The government passed the law through the parliament unanimously on December 18th 2002.

MEP APES



7.3 APES of the German StrEG of 1990

1. Agenda Setting

Around 1986 and 1987, the policy window had completely opened in Germany. However, the conservative government of CDU/CSU and FDP did not feel inclined to act upon the recent developments. Also, no developments took place within the ministry of economic affairs (BMW). It was the ministry of environment (BMU) that together with the ministry of research and innovation wanted to develop more extensive showcase projects for wind- and solar power. They could not count on strong support of the Cabinet.

An important act of agenda setting happened outside the government or ministries. In the summer of 1988, the two members of parliament Christensen and Maas from government party CDU/CSU held a press conference – against the will and without permission of their own party – stating that policies for the market promotion of RE should be placed on the agenda of the government. The representatives are delegates from the north of Germany, and worked in close conjunction with the interest organization for wind power (BWE). Next to environmental issues, they saw potential for farmers in the north to make money out of wind energy – after the example of nearby Denmark (Jacobsson and Lauber, 2006; Kords, 1993).

They soon got the public support of Engelsberger, a third representative of CDU/CSU. He was a delegate from the southern state Bavaria. His conjunction with the hydropower companies was even tighter: not only was he the owner of a small hydroplant himself, Engelsberger was also the chairman of the interest organization for hydro power (VDW) (Kords, 1993).

Environmental organizations did not take part in this agenda setting phase. The two biggest organizations, BUND and NABU, were internally divided over many issues, and did not yet formulate a coherent view on RE.

2. Preliminary Investigations

This episode led to a fight within CDU/CSU, that finally adopted the viewpoint of the three MP's that there should come policies for the market promotion of RE. However, BMWi and the government did not act upon these developments within the CDU/CSU, hoping the dissidents would have been encapsulated by now. However, the relative success and enormous media attention received (it was the low news period of summer) strengthened the dissidents to go further. Together with 70 other MP's of different parties, a policy proposal was submitted directly to the parliament, a measure seldom taken (Kords, 1993).

BMWi now had to react. They did so by stating this proposal could not be adopted on a 'procedural basis'. However, they would conduct their own preliminary investigations. BMWi soon came to the conclusion that decentralized production is uneconomic and foreign to the system. Therefore, RE had a complementary character and could never become a serious option for the future. In short, they did not want to subsidize technologies considered unfit for the market. This reaction received a lot of negative responses in the media and BMU took this opportunity to claim some dominance on the issue by placing some critique and alternatives, although minor. Reactions also came from research institutions, such as the Fraunhofer Institut für Systemforschung, who brought down some of the statements of BMWi (Kords, 1993).

3. Working out the Draft

As a response, a new proposal was introduced by parliament. This time, a broader coalition was formed consisting of members of the CDU/CSU, the Green party and the SPD. This draft was developed together with the different interest organizations that were tight closely to the different MP's. Apart from the hydropower interest organization, examples are Solarenergie-Förderverein Deutschland that is closely connected to the Green party and Eurosolar, which can be seen as a personal project of SPD MP Herman Scheer. BMU did not actively participate, but assisted members of parliament in the drafting of this bill. This was a request from the MP's, as they not staffed to create legislation, to the extent a ministry is (Kords, 1993).

4. Consultation

BMWi took back the initiative in this round. In a last attempt to prevent the StrEG, they tried to negotiate voluntary agreements with VDEW. However, the conventional energy companies did not want anything to do with RE themselves and rejected the proposal. They rather had a feed-in tariff as it was seen of little importance. The energy intensive industry did not get involved at all. In general, one could say that this policy process took place off the radar as the entire country was preoccupied with German reunification.

5. Draft Modification

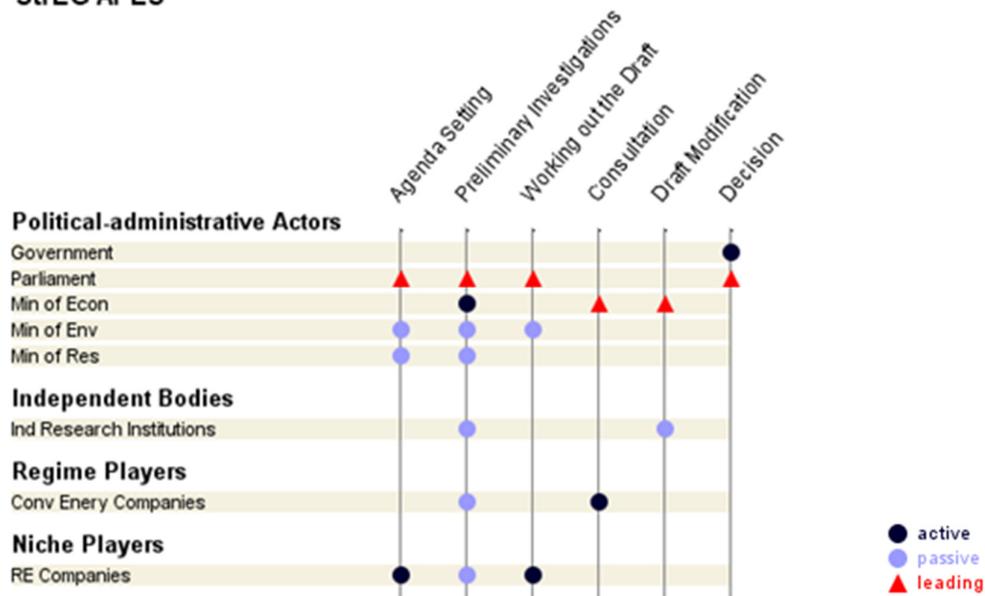
After failing to negotiate an alternative with VDEW, BMWi took the initiative in writing the final proposal. They wanted to keep the policy as small as possible. Different organizations wanted a say in this phase in order to secure not only a feed-in tariff for solar, wind and water, but also for Biomass, Biogas and CHP. However, this did not happen as BMWi did not even include BMU, although it had gained authority over the CO²-reduction portfolio in 1987.

6. Decision

The government passed the law through the parliament *unanimously* on December 18th 2002. It presented the law as an example of the efforts this government took to fight

climate change. However, this analysis shows that this is the first time it even got involved in the process.

StrEG APES



7.4 APES of the German EEG of 2000

1. Agenda Setting

In 1997, there was a fierce battle over the continuation of the StrEG within the conservative coalition of Christian Democrats and Liberals. The StrEG was continued, but after the elections of 1998, a progressive government of social-democrats and greens came to power. An important act of explicit agenda setting was the coalition agreement in which an entire paragraph is devoted to the intentions considering the reform of RE policies (Bechberger, 2000). The government is therefore seen as the leading actor in this event.

There were a number of societal actors who more passively tried to set the agenda at this point. Conventional energy companies such as PreussenElektra focused on the regional inequality and sometimes high burden of the old FIT's. Environmental organizations publically emphasized the need for a rethinking of the RE policy in light of the Kyoto protocol signed one year earlier. Also, employers' organization VDMA (steel and machinery) spoke out as the current crunch in the wind turbine industry put a lot of jobs at stake. They got the support of two unions. Finally, even big companies such as Shell and Siemens asked for reform as they planned on opening new solar panel factories.

2. Preliminary Investigations

A number of policy reports were published in the light of reforms. The most influential one was made by BMWi (the Studie des Prognos AG). As a reaction, other extensive and detailed studies were issued by BMU (the DLR-study) and the interest organization for wind power BWE. They were often made in cooperation with independent research institutions.

3. Working out the Draft

There was much disagreement on how to continue or renew the German RE policies. Interestingly, it was not BMWi but a Parliamentary committee that took the initiative to write a new draft. They did this alone and used the extensive work done in the preliminary investigation as a basis.

4. Consultation

Again, it was the parliamentary committee that took initiative to consult the other actors about their first draft. Reactions came from the BEE (Bundesverband Erneuerbare Energie, so the RE energy companies), BMU and BMWi.

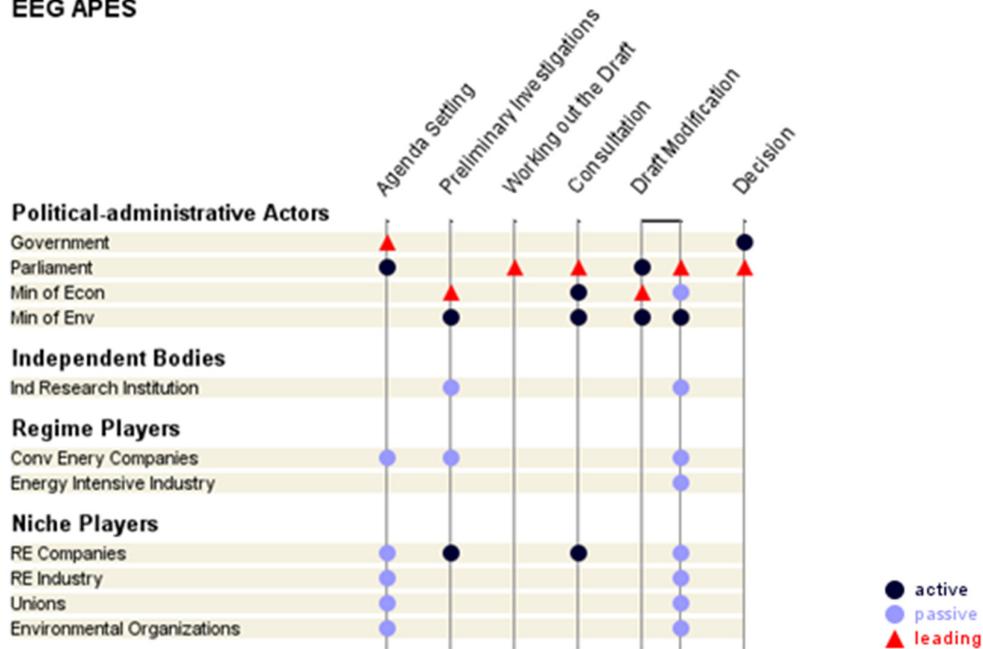
5. Rewriting of the Draft

BMWi took the initiative back in this phase. The parliamentary committee gave back the confidence it had lost before and together with BMU they started to work on a new draft. However, when it was presented, it was unsatisfactory for all other parties involved. BMWi failed to adhere to the agreements and the parliament took over the initiative again. In this new round, the parliament managed to make a final draft that could count on broad support. In a public hearing, it invited all parties active in the issue arena to make some last modifications to the draft. BMU got an active role in the rewriting process, while BMWi only got consulted.

6. Decision

The law was passed through parliament by the government on March 23th, 2000.

EEG APES



7.5 Structure Driven Theory: testing the hypotheses.

With the help of the APES created in the previous sections, qualitative information can now be translated to quantitative data in the form of a simple actor-event matrixes (appendix: A). Passive participation is given one point, active participation two points, and a leading actor is given three points. This matrix is then transformed

in an actor-actor matrix, in which one point is given for every time that the actors jointly participated in an event (e.g., a value of three means that these actors participated together in three separate events). With this, sum participation matrixes (appendix B) are created, in which the type of participation of each actor is weighed according to their role. For example, a value of five could mean that these actors jointly participated in one event, in which one actor was leading, and the other actor was active. It could also mean that they jointly participated in two events, in which they were both passive in the first, but one of the actors was active in the second event.

This matrix can now be used as a dataset for SNA-software, making it possible to create a visual representation of the different policy networks, and perform some simple calculations to test the hypotheses proposed in chapter four. In the thesis, I made use of UCINET (Borgatti et. Al, 2002). The results are displayed below. *For all networks counts that line thickness is according to tie strength and node size is according to centrality score. A legend for all four images is given on the next page.*

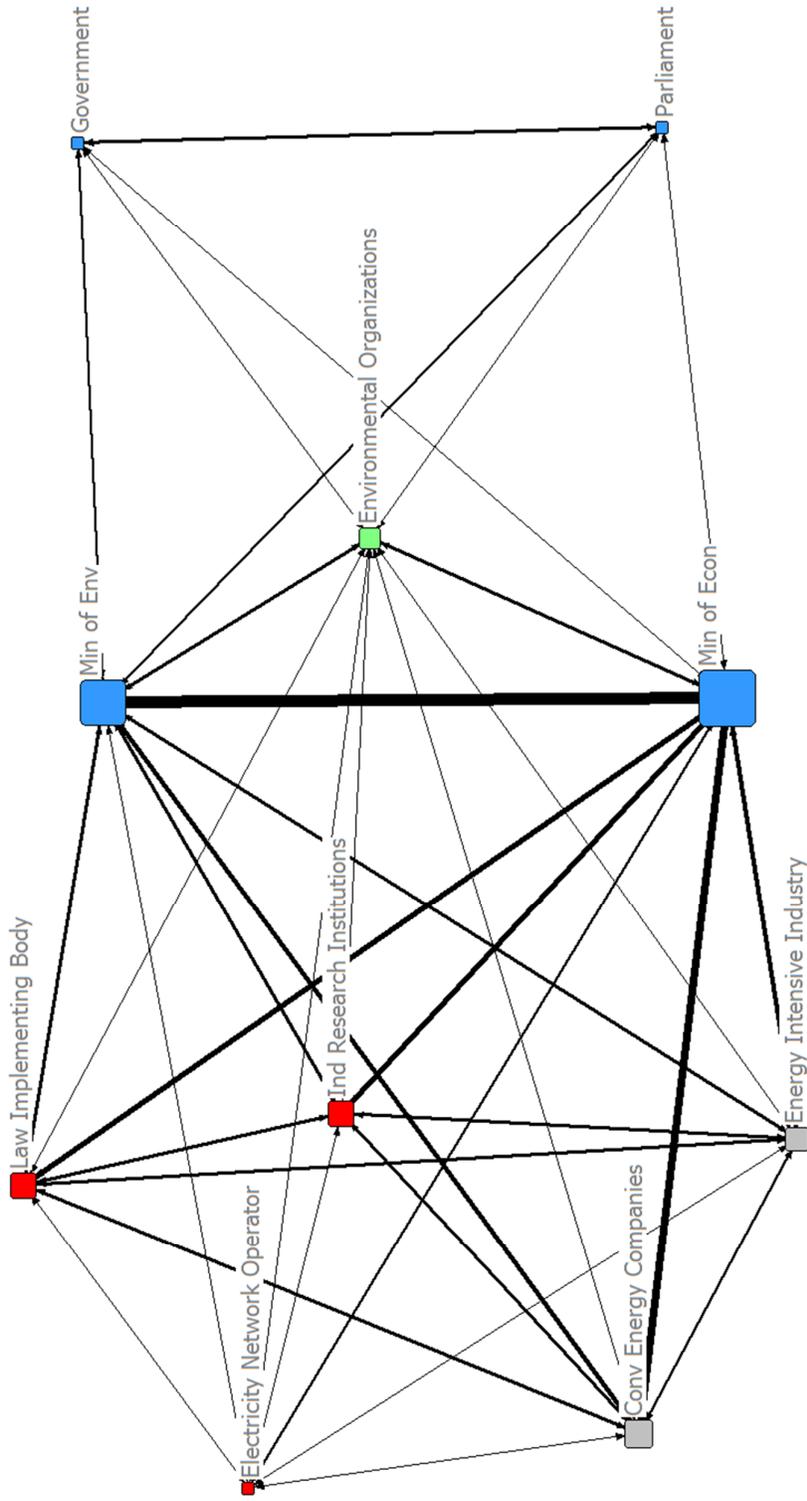
A first glance at the visual representation of the policy networks already shows some distinct differences. It is not so much different shapes of the network that stands out, but the different sizes of the equivalent actors and the thickness of the ties, that respectively tell something about the centrality and embeddedness of the actors. I will return to this later, but will first continue to test the hypotheses that take a look at structural elements of the entire networks, and not the individual actors.

(1) If there is more network closure, then there is a greater potential for policy change.

To recall, network closure means that a network is better-connected. This makes the network better in adapting to changing landscapes, as, for example, transaction costs for needed exchange(s) between actors are low. Closure is defined as a combination of two measures, density and centrality. For each time period and case, the values are given below.

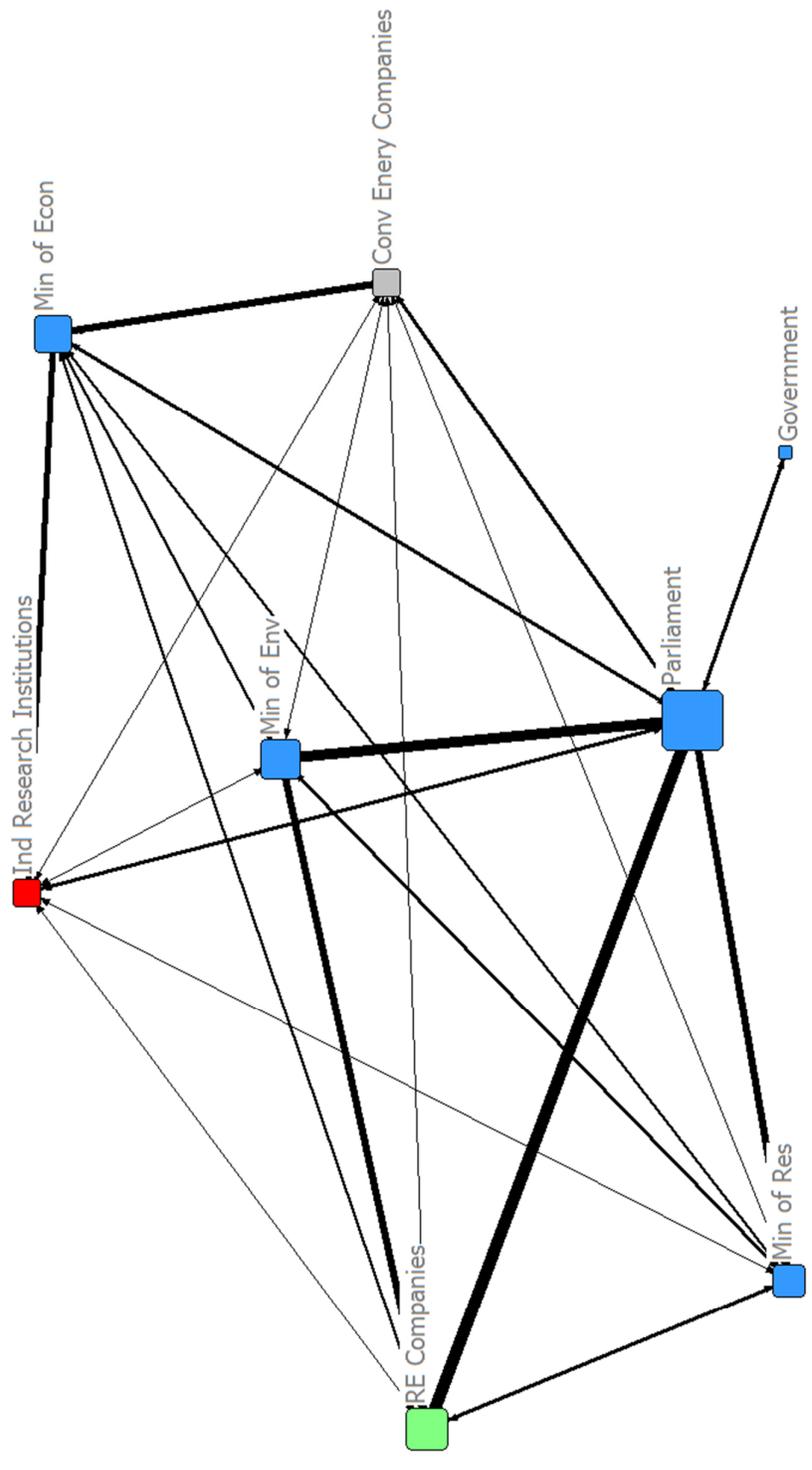
Table 6: Network Closure, 1st time period			
<i>Density</i>		<i>Centrality</i>	
BES	StrEG	BES	StrEG
4,0	3,8	26.77%	25,00%

Although the policy processes leading up to the Dutch BES and the German StrEG have distinct differences, table 6 shows that these cannot be explained by different levels of network closure. Both centrality and density values are similar. Density values are higher than one since the APES creates a valued network links, meaning that density says something about the average tie strength. It is important to note that the density measure is dependent on network size. Smaller networks need higher density values to reflect similar levels of cohesion (Sandstorm and Rova, 2010). The Dutch network is slightly larger (BES: 10 actors, StrEG: 8), this means that the German network is expected to have even higher levels of cohesion, but this is not the case. Consequently, for this timeframe hypothesis (1) is refuted.

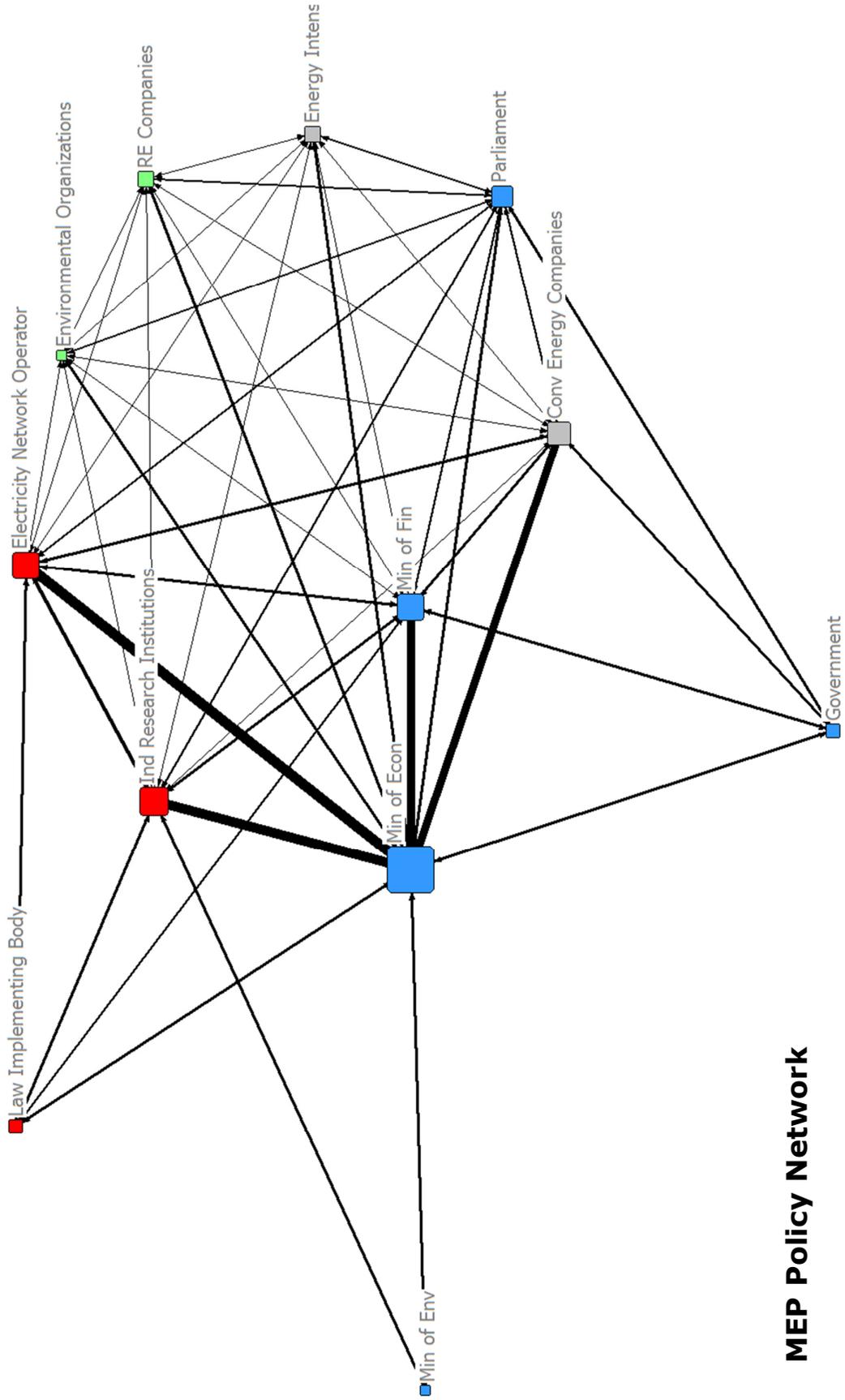


- Political-administrative Actors
- Independent Bodies
- Regime Players
- Niche Players

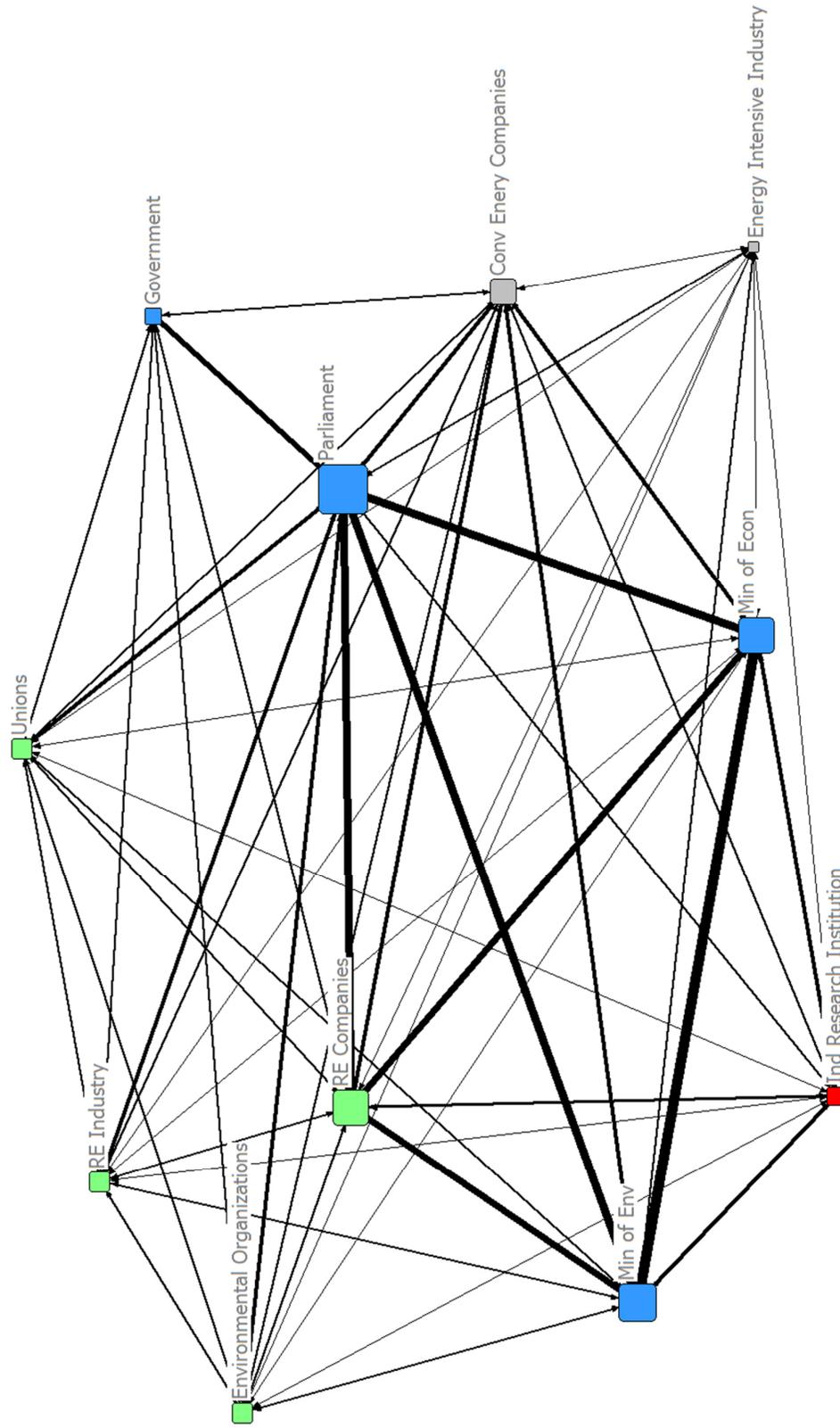
BES Policy Network



StrEG Policy Network



MEP Policy Network



EEG Policy Network

Table 7: Network Closure, 2nd time period			
<i>Density</i>		<i>Centrality</i>	
MEP	EEG	MEP	EEG
2,8	4,7	33,52%	27,92%

For the second time period table 7 shows that there is no large difference in centrality between the networks. When looking at density values, a significant difference can be seen. The networks differ not much in size (EEG: 11 actors, MEP: 12), while density values differ greatly (EEG: 4,7 and MEP: 2,8). This means that the policy network developing the German EEG is comprised of many more connections than the Dutch network leading up to the MEP.

Although centrality is slightly lower, the EEG-network can be considered to have more closure due to a much higher density score. As a result, for the second time period hypothesis (1) is confirmed, since the network with more closure did also create greater policy change in response to landscape changes.

Overall, the measure of network cohesion does not give a satisfactory explanation behind differences in policy change of the two cases. Interesting to note is that, while overall centrality is similar in all cases, individual actor centrality differs greatly between the equivalent *actors* in both networks, a point I will return to when testing hypothesis (3), but not relevant when discussing cohesion.

(2) If there is more network heterogeneity, then there is a better mobilization of resources.

To recall, network heterogeneity shows to what extent interaction takes place among people with different affiliations. In the light of this research, it is most relevant to see whether interaction takes place between the two groups of societal actors (i.e. niche and regime players) and the third group of non-societal actors, namely the political-administrative bodies and independent actors. These two actor groups are combined because together, they represent the technocratic actors in policy making (De Jong, 2005). This means that a network with a low heterogeneity score between these three groups, indicate a closed and technocratic policy process. High heterogeneity scores indicate a more open policy process in which societal actors play a bigger part. Another interesting element to look at is whether societal actors are predominantly niche players, or regime players. This shows something about the embeddedness of these particular groups within the policy network as a whole. Therefore, a calculation for the heterogeneity score for the individual groups of niche and regime players is also given.

	Table 8: Heterogeneity, 1st time period	
	<i>BES</i>	<i>StrEG</i>
<i>Regimes, Niches, Others</i>	0,41	0,24
<i>Regimes; Others</i>	0,28	0,09
<i>Niches; Others</i>	0,15	0,16

In the first time period, heterogeneity in the Netherlands is larger than in Germany, while the opposite was expected. As a result, hypothesis (2) is disproved. However, table 8 shows this difference is largely due to the embeddedness of the regime players in the Dutch network. In Germany, niche players played a more prominent role.

	Table 9: Heterogeneity, 2nd time period	
	MEP	EEG
<i>Regimes, Niches, Others</i>	0,40	0,63
<i>Regimes; Others</i>	0,27	0,25
<i>Niches; Others</i>	0,18	0,48

Table 9 shows that the EEG came about in a more heterogeneous policy network. Contrary to the first time period, this result confirms hypothesis (2). A closer look at the table shows that it is especially the niche players who made the difference in this, as they are more embedded in the network.

Since the results are contradictory, heterogeneity does not give a convincing explanation for the differences in policy change based on these cases. Nonetheless, while overall heterogeneity might not give a satisfactory explanation, the level of embeddedness of respectively niche and regime players do seem to be reflected in the policy outcome. In both Dutch networks, regime players are much more embedded. In both German networks, it is the niche players that show more embeddedness.

(3) If power is more fragmented, then there is a greater potential for change

To recall, Adam and Kriesi (2009) propose to use positional, participation-based and reputational indicators to measure power fragmentation. Hypothesis (1) and (2) already gave us a positional (centrality) and participation-based (heterogeneity) indicator. A highly fragmented structure is characterized by a heterogeneous group of actors with a low centrality score. Concerning participation-based indicators, the discussion of hypothesis (2) already showed that the heterogeneity score for the German EEG network is highest, confirming the hypothesis. Conversely, the results for the first time period refute the hypotheses. These conflicting outcomes make overall network heterogeneity not a strong indicator for policy change. Nonetheless, the embeddedness of respectively niche and regime players is echoed in the policy outcome, giving some explanatory value to participation-based indicators.

The results of testing hypothesis (1) showed that centrality scores for all networks are rather similar, giving it no explanatory value. However, for hypothesis (1) centrality served as an indicator for cohesion. In that case, higher centrality means greater cohesion and more potential for policy change. For this hypothesis however, centrality is an indicator for power fragmentation. In this case, higher centrality means less fragmentation of power and thus little potential for change – the exact opposite from hypothesis (1).

As a result, a slightly different approach should be taken to indicate power fragmentation by not only looking at the overall network centralization, but also at the standard deviation of this centralization. A higher standard deviation does not imply a better connectedness (relevant for the cohesion measure), but it does stand for a higher fragmentation of power. Table 10 shows that the StrEG has a lower standard deviation, and consequently is expected to have a greater potential for policy change. However, the other three values are rather similar, making the positional-based indicator centrality again a weak predictor for policy change.

Table 10	BES	StrEG	MEP	EEG
Standard deviation	19,5	12,7	19,0	18,1

As already touched upon at the beginning of this section, the visual representation of the policy networks already show that equivalent actors have very different positions.

This is of course expressed by their individual centrality score. By looking at these individual centrality scores and adding a reputational indicator – the third indicator proposed by Adam and Kriesi – can help to bring some important new insights. Reputation can easily be attributed to the two groups of societal actors (regime players, niche players). However, so far I have treated political-administrative bodies as a homogenous group. This is too simplistic and does not serve justice to reality. A first obvious distinction that can be made is between the ministries of economic affairs and environment. In both countries, the ministry of economic affairs has a conservative reputation, representing the interests of regime players. The ministries of environment, on the other hand, have a reputation to defend the interest of niche players. Furthermore, the German parliament has proved to be a strong advocate of niche interests. With these reputational indicators in mind, it is interesting to look at the centrality scores of the different individual actors (table nr 11).

In the first time period, the Netherlands is dominated by the ministry of economic affairs, who clearly has the highest centrality score. Apart from the ministry of environment, only independent bodies or regime actors have a high centrality score, indicating that there is little fragmentation of powers. The German network yields completely different results, with the three actors with the highest centrality score all actors who represent the interest of niche players. This pattern is even stronger in the second time frame. In the Dutch case, the ministry of economic affairs has a centrality score that is almost twice as high as the centrality of the second actor. In the German case, it is again the Parliament that is central, followed by two other actors with the reputation of representing the niche interest.

Taking reputation into account and looking at the individual centrality scores of the actors does not reveal greater power fragmentation in the German policy networks – a result that would confirm hypotheses (3). A simple calculation of heterogeneity according to this new grouping proves this (i.e. for all cases the ministry of environment as a niche player, and ministry of economic affairs as a regime player; in the German case, the parliament as a niche player). The outcomes are of course different, but the ratios remain similar. What becomes clear – and what was already touched upon at the beginning of this section as it became very clear from the visual network representations – is that those actors central in the policy process are a great indicator for the actual outcome.

Even though hypothesis (3) revealed some structural tendencies that were not exposed by only testing hypothesis (1) and (2), power fragmentation in itself cannot be seen as a driving force behind policy change.

(4) If the type of interaction is conflictual/bargaining/cooperative, then policy change will be rapid/incremental/remain status quo.

The type of interaction in the Dutch policy network dealing with the BES can be characterized as bargaining and cooperation. It was mostly a bargaining game between VROM, who set the agenda, and EZ, who took the lead in the process. Interaction of EZ with its stakeholders in drafting the policy was characterized by cooperation. In the end, no significant policy change took place. The type of interaction in the German policy network dealing with the StrEG was much more conflictual, as a power struggle between parliament and BMWi took place.

Table 11: Individual Centrality Scores											
The Netherlands						Germany					
BES			MEP			StrEG			EEG		
Actor	Centrality	Actor	Centrality	Actor	Centrality	Actor	Centrality	Actor	Centrality	Actor	Centrality
Min of Econ	78	Min of Econ	82	Parliament	52	Parliament	86	Parliament	52	Parliament	86
Min of Env	63	Ind Research Ins	44	RE companies	34	RE companies	66	Min of Env	34	Min of Env	66
Conv energy comp	39	Elect Net Oper	43	Min of Env	31	RE companies	64	RE companies	31	RE companies	64
Ind Research Inst	35	Min of Finance	41	Min of Econ	29	Min of Econ	62	Min of Econ	29	Min of Econ	62
Law Impl Body	35	Conv energy comp	35	Min of Research	24	Con energy comp	48	Con energy comp	24	Con energy comp	48
Energy Int Ind	31	Parliament	31	Conv energy comp	20	Unions	36	Unions	20	Unions	36
Environ org	27	Environ org	19	Ind Research Inst	19	RE industry	36	RE industry	19	RE industry	36
Government	16	Energy Int Ind	19	Government	5	Environ org	36	Environ org	5	Environ org	36
Parliament	16	RE companies	19			Ind Research Ins	33	Ind Research Ins		Ind Research Ins	33
Elect Net Operator	16	Government	18			Government	30	Government		Government	30
		Law Impl Body	16			Energy In Ind	21	Energy In Ind		Energy In Ind	21
		Min of Env	9								

 Reputation of defending Niche interests

 Reputation of defending Regime interests

The policy process that resulted in the adaptation of the German EEG was even more conflictual. Not only was there a power struggle between again the parliament and BMWi, also societal actors did not shrug confrontations. With niche players going to the streets and regime players going to court, there was little bargaining left in the process, let alone cooperation. The Dutch process, on the other hand, was typified by strong cooperation between the most important actors in the process. Everyone agreed the subsidy leak should be fixed, making it a technocratic process with much cooperation and little room for societal actors to bargain or create conflict. Therefore, the case studies confirm hypothesis (4), making the type of interaction a good indicator for the observed policy change.

7.6 Conclusion and discussion

This chapter tried to give an answer to sub question (1): *to what extent can structure-driven theory explain different policy outcomes in the Netherlands and Germany?* Before making too rigid conclusions, some additional comments must be made. As indicated before, the data gathering has not been completely symmetric. For the Dutch case, I largely based myself on primary data, while for the German case secondary data is of greater importance. This may have led to the fact that in the German cases, the less significant actors belonging to the ‘independent actor’ group were already being filtered out, distorting the picture. On the other hand, the prominence of independent actors in the Dutch case can also indicate that the process has been more technocratic. Looking at the overall case descriptions, I find this this last explanation more plausible, and have decided not to interpret the (asymmetric) data too much, upholding a positivistic approach as much as possible.

A second point of concern is that the data gathered from archives, interviews and/or secondary sources is – although extensive – still not representing the actual policy process as it happened. In her interview, van Eickelenburg, strategic director of RE interest organization de Koepel, emphasized that influence goes beyond formal consultations. “*In the Netherlands, it is unclear to whom a civil servant talks and when this takes place. During informal gatherings, all types of deals are being made*”. Van Soest (2011) takes this further. Rather than the transparent strategies directly focused on policy makers, companies start less transparent lobby campaigns in which private interest increasingly influences the public discourse. This will not find its way into the formal decision-making process, but most likely have a significant impact on the outcome. This is similar to critique that Sabatier expresses towards the policy cycle method, stating that it puts too much focus on the bureaucratic process, disregarding context and content aspect. In this way, it becomes too much a normative process imposing schematic stages on what actually happens (Parag, 2006).

Although I understand the critique, it has been my experience that imposing a schematic scheme on an otherwise complex and blurry policy process has been rather helpful. Like Hanneman and Riddle (2005) argue, it forces the researcher to be systemic and complete in describing patterns of social relations. There are some additional benefits of a systemic, structural analysis. First, matrices and graphs of network analyses summarize and present a lot of information quickly and easily. Second, following the strict rules and conventions of network analysis can make the researcher see things that he would have missed when describing them in words. In the words of Hanneman and Riddle (2005), by clearly defining the structural constraints and opportunities that an actor faces; we may be better able to understand the role that an actor plays in a social structure.

The qualifications discussed above are valuable, but do not make structure more than a *metaphor* of the policy process, while the goal of this chapter was to see whether structural

network characteristics could function as a *model* to describe, explain and possibly predict policy change. To do so, network analysis takes a positivistic approach with highly formalized hypotheses. The results showed that for the second timeframe, most hypotheses were confirmed. The German EEG network had, compared to its Dutch counterpart MEP, higher values for cohesion and heterogeneity, a higher fragmentation of powers and an interaction that can be understood as conflictual rather than bargaining or cooperative. This picture is less obvious in the first time period. Hypotheses were not all confirmed showing contradictory results. Still, some structural characteristics were obvious across all cases: both German policy processes can be recognized by a higher *embeddedness* of niche players, higher *centrality scores of individual niche actors*, and *conflictual interactions*.

Concluding, the structural research showed that a network analysis has great value as a tool for a systemic and complete description of a policy process. It is therefore a great *metaphor* that allowed me to quickly and easily summarize information and see things that would have been missed when describing them in words. On the other hand, the testing of the hypotheses showed we must be modest in ascribing too much explanatory value to the *model*. This might be partly due to the hypotheses chosen. Especially the hypothesis based on the work of Sandstrom and Rova (2010) deal with overall network characteristics and associated elements such as transaction costs and resource scarcity. This might disregard some important differences that become clearer when zooming in. In the end, there are obvious different characteristics of the policy networks that immediately become noticeable when looking at the visual representation and can also be expressed through different levels of group embeddedness, actor centrality and type of interaction. This makes the network analysis more than a metaphor alone, showing it can function as a model as well.

8. Agency Analysis – The Netherlands

Using the flowchart model of the conceptual framework, this section will analyze the issue networks by first looking at the landscape changes that put pressure on the network. The second step will be to see how this formed a window of opportunity for niches to attack the current regime. Interactions between the multiple levels of niches, regimes and landscape are analyzed. This is done by making an analysis of the different actor-strategies of the most important niche- and regime players by identifying the specific strategies employed, the political resources mobilized, and interpreting the type of power obtained. The goal is to create a storyline that shows how the different actors mobilized different resources to exercise power.

Actors are categorized in a similar way as done in the structural research. A difference is that political-administrative actors will not be discussed independently. Instead, the actors of this group will also be treated as either a regime or a niche player. In the structural research they were treated as a separate group because political-administrative bodies are an important element of the network characteristics of the policy process. When looking at niche regime interactions – the purpose of this chapter – it is crucial to acknowledge that political-administrative bodies are not neutral. Another difference is that the actor-group ‘independent bodies’ will not be discussed separately as I do not consider them having a clear strategy of their own. They will of course be mentioned when they are ‘used’ by either regime or niche players to obtain external legitimacy.

The result will be an analysis of two groups (or coalitions): regime- and niche players. These two groups are each separated into four sub-groups, namely political-administrative actors, conventional or renewable energy companies, the energy-intensive or the RE related industry, and finally other interest organizations that are either for or against a transition towards renewables.

8.1 First policy window: The first Climate Wave

At the landscape level, several developments in the late eighties led to the opening of a policy window for niche actors to push for new policies supporting renewable energy. For both countries, these developments were among others the nuclear disaster in Chernobyl, the Brundtland report, and previous successes of policies dealing with CFK’s and acid rain (see section 5.2 for more details). In the Netherlands specifically, the report ‘zorgen voor morgen’ (concerns for tomorrow) published by the RIVM (National Institute for Public Health and the Environment), created a national momentum for action. More than one source also mentioned the importance of the yearly Christmas speech of the Queen, who explicitly expressed her concerns about the future of the environment (Duyvendak, 2011; Reijnders, 1993; Cramer, 1989 and Pleune, 1997). Duyvendak has named this period of opening policy windows the ‘first climate wave’.

The debate was mainly framed around environmental concerns, even more specifically the greenhouse effect and associated sea level rise. Other possible external environmental pressures such as the aforementioned finite character of fossil energy sources, the dependency on imports, and the potential for a domestic industry, did not find their way into the issue network. The outcome was a much broader political discussion that did not only focused on RE policy but in which for instance consumption patterns, agriculture and energy efficiency became a part of the discourse as well (Cramer, 1989)

8.1.1 Strategies of the Regime Players

Political-administrative Actors

When talking about political-administrative actors, the parliament and the political parties it consists of cannot be neglected. However, the idea that policy only comes about through actors in parliament has been already discussed and dismissed in the introduction of this paper. No political system features continuous discussion on all issues that confront it, most issues most of the times are treated outside of the political spotlight by relatively closed communities of experts on the issue. So it is a given that all policies will be discussed in the parliament, but the extent to which this is done differs greatly.

In this light it is interesting to ask if the policy debate is based on clear visions of the political parties formed in the political spotlight, or whether these parties formed their position and judgment based on the proposals coming from the ministries. In the first case, political parties are clearly relevant for the policy process. In the second case they are not (De Jong, 2005, p57.)

Generally speaking, the timeframe under study has not seen a clear, substantive, political vision on energy policy from the different political parties. Also within parties, there has been little debate. Of course, there have been specific and politically controversial topics that lead to a political discussion 'in the spotlight'. However, these controversies almost always arose *after* the Cabinet implemented policies designed by the ministries (De Jong, 2005). Broad debates about the role of energy - debates that could have a serious impact on the policy process, such as the debate about the 'Energiewende' currently in Germany – did not take place between political parties in the Netherlands, limiting the importance of these parties.

Thus the energy policy arena has been a rather technocratic affair that took mostly place outside the political spotlight. Within the group of political administrative actors, the ministry of economic affairs (EZ) has always been the most explicit regime player handling in the interest of industry and employees. In my interview with him, De Jong – at the time a high ranked civil servant at EZ – explained that when these parties made clear they were against any form of compulsory legislation, such as a regulating energy tax, EZ would respect this. This is confirmed when looking at the correspondence between the ministers of VROM (Alders) and EZ (Andriessen) of that time, in which the latter emphasizes this position on several occasions (VROM, 1990). In addition, EZ was not willing to give up any of its formal legal authority concerning energy policy. The strategy of EZ was to obtain constitutive power. With a government that was already fallen over environmental issues one year earlier, and a prime minister of the same party, this strategy was successful.

Conventional Energy Companies

The conventional energy companies are represented by VEEN (electricity companies) VEGIN (gas companies) and VESTIN (urban heating companies). They resisted compulsory policies that would limit them too much in their current activities. As a response, they took initiative and came with their own 'environmental action plan', consisting of a number of voluntary agreements (that were never reached) and a few demonstration projects, mostly wind parks (that completely failed) (Duyvendak, 2011).

For their network activities, the energy companies worked together under the name SEP (cooperating electricity producers). 1989, they issued the research ('production of Electricity and the environment, new perspectives for SEP') that became very influential all throughout the nineties (Duyvendak, 2011). In line with the broader societal debate, it focused mainly on the relation between energy and the greenhouse effect. Its main

conclusion being that SEP should focus on energy efficiency. Renewable could be experienced with through demonstration projects but were still considered something for a more distant future. The power obtained is not completely constitutive as it does acknowledge some degree of change. Therefore, I interpret it as constitutive and transformative. While taking some initiative and giving room for change, the companies tried to protect the position of current energy regime and did not really commit towards a change in the practices of energy production. This remained limited to some voluntary agreements that were never reached, and unsuccessful demonstration projects.

Energy-intensive industry

VNO and NCW, the two largest employers' organizations that merged in 1997 to become VNO-NCW, were the strongest interest supporters of the energy intensive industry and had a fierce political lobby in place. They were very much against the Netherlands as a frontrunner in Europe stating that 'the Netherlands cannot afford an experiment', and that on a global scale, our contributions to environmental problems is marginal. They would also not shrug to add that the entire climate debate is not undisputed. Furthermore, energy would not be an elastic good, meaning that a price increase will not lead to lower demand – although the oil crises in the seventies proofed this wrong as they lead to high efficiency yields (Duijvendak, 2011). In my interview with von Meijenfeldt, a civil servant at EZ that participated in the talks with industry at the time, indicated that – although not remembering all strategies exactly – VNO-NCW often looked for publicity through newspapers to influence public opinion. Also, they knew their way around the formal participation opportunities at the ministries, directly influencing the ministers or representatives in the parliament.

In the late eighties and early nineties, the biggest representatives of industry lobbied together, informally named PHAUSD. This is an abbreviation for the six biggest industrial parties, namely Phillips, Hoogovens, Akzo, Unilever, Shell and DSM. In the eighties, there was not much direct lobbying when VROM developed its progressive environmental policy program NMP. This changed when they realized energy policy – normally under the responsibility of EZ – could now become a subject of serious political discussion. Or in the words of Pier Vellinga, at the time a civil servant for VROM: *'We did not notice back then that apparently, it took a few years before groups who considered climate police as threatening, started to sabotage the process'* (Duyvendak, 2011, p. 56).

The strategy applied by PHAUSD was clear. Compulsory legislation would damage the competitiveness of these energy intensive industries, meaning that they would be forced to move their activities and associated jobs abroad. This is a way to obtain the political resource of mobilizable troops in the form of directly employees and/or indirectly unions. Von Meijenfeldt, emphasizes their lobby power, saying that when options other than voluntary agreements were placed on the table, the reaction of the industry would be to bypass the policy process at the ministries. By using their connections they would directly pressure the minister or representatives in parliament. I interpret this as a strategy to obtain formal legal authority to make policy decisions. For all the strategies of industry, the power obtained is constitutive.

8.1.2 Strategies of the Niche Players

Political-administrative actors

As indicated in the previous section, parliament and political parties were not actively involved in the policy process. The most important niche player was the Ministry of Transport, Spatial Planning and the Environment (VROM). Although VROM never had formal legal responsibility for energy policy, it has been a very influential actor. In

general, VROM became more influential, when environmental issues played a larger role in the agenda setting. In the late eighties, VROM set the agenda themselves by drafting the progressive 'National Environment Policy Plan Plus' (Nationaal Milieuplan Plus, NMP+).

VROM has been in a continuous encounter with EZ, bargaining about the role environment should play in energy policy. The problem is that the EZ had more formal legal authority to make decisions. Therefore, the most important strategy of VROM was to obtain formal legal authority to make policy decisions the Prime Minister. At the time, the minister of VROM Alders had good connections with Prime Minister Lubbers. As Lubbers was known to have serious environmental concerns, Alders attempted to persuade him into giving more formal legal authority in energy policy (VROM, 1990; De Jong 2005). Lubbers remained reluctant, a major reason being that he had fresh in mind that the previous government fell over the first national environmental policy plan (NMP) in 1988 (Duyvendak, 2011). This strategy can be seen as an attempt to obtain transformative power.

A second strategy of VROM was to mobilize information as a resource. According to Nijpels – minister of VROM from 1986 to 1989 – it was very well possible to work together with civil servants of different ministries. However, on the level of the ministers, resistance grew. There was a permanent discussion about the facts, about the actual condition of the environment. In Duyvendak (2011, p.39), former minister of VROM Nijpels tells: *'that's when we said: there should be a report that can make sure that if the NMP appears, we will have no discussions about the facts anymore. This became zorgen voor morgen.'* (concerns for tomorrow, the earlier mentioned rapport published by the RIVM that gave enormous momentum). Nijpels continues by saying that *'within the government this gave, partly due to societal pressure, suddenly room to an ambitious environmental policy'* (idem). This strategy can be seen as an attempt to obtain destructive power as it destroyed old information about the state of the environment.

RE Companies

In the late eighties, there were a few interest organizations active in this field. HollandSolar lobbied for solar energy, NWEA for wind energy and separate organizations that promoted hydropower. De Jong (2005) and van Soest (2011) both typify these movements as fragmented. In the interview, De Jong said that within EZ, they did not listen too much to these parties, as their economic significance was negligible. Van Soest (2011) said they were rather preoccupied by dividing the cake instead of enlarging it. Discussions were about whether wind is more sustainable than solar or vice versa. Overall, their influence during this time period is negligible, as they are briefly mentioned in the Archives of VROM (1990), and not even mentioned in the archives of EZ (1990).

RE Related Industry

At this time, the RE related industry was of no real significance. They are not mentioned in the archives (VROM 1990; EZ 1990) and secondary data did not discuss them as well. Therefore, no strategies can be identified.

Labor Unions

Labor unions were in favor of a regulating energy tax (Cramer, 1989), but never became very active in the policy process De Jong (2005). This is confirmed by the archive (EZ, 1990), where labor unions were invited to the consultation round, but took the policy draft for granted.

Environmental Organizations

There were many environmental organizations active in this period, all characterized by a slightly different position and type of strategies employed (Pleune, 1997). Most active in the policy process was Stichting Natuur en Milieu (SNM). The issue arena opened up and SNM took this opportunity to participate in governmental committees, a direct attempt to obtain some authority in the decision making process. A more indirect way of influencing formal legal authority was through personal letters to policy makers and representatives. These strategies were very mild in nature and questions were raised about the effectiveness of participating in governmental advisory bodies because the results achieved were minimal (Jamison et. al, 1990). Environmental organizations hoped that their participation in the actual policy process would lead to new and different policy tools. This means they hoped to obtain innovative power. Critics expressed concerns that because of this mild strategy, it seemed not only ineffective in the short-term, but also carried the danger of NGO's that would become encapsulated by the regime (Cramer, 1989; Pleune, 1997). Nonetheless, most organizations did not completely break with their radical past and relied on classical strategies to mobilize public opinion. This was done by old-fashioned public campaigns (Pleune, 1997).

Especially SNM published 'special expert reports' (Jamison et. al, 1990 p 171) about the topic, thereby attempting to obtain dominance over information. Around this time, the main environmental groups started to hire researchers that could gather and produce the necessary information (Jamison et al, 1990). These reports did not become as influential as the report of the independent bodies such as the RIVM, but had the same goal of becoming a destructive power by creating authority over information and thereby changing the status quo of what was considered the condition of the environment.

Probably the greatest success of environmental organizations in this period was to activate mobilizable troops in the form of a solid group of people supporting the organizations by becoming a member. The organizations made use of the general attention given to the environment at the time and started professional sponsor campaigns by mail, radio and television in order to increase membership numbers. Between 1985 and 1990, these numbers grew from 425.000 to 1.464.000 (Duyvendak, 2011, p. 73). This gave the organizations more lobbying power, and therefore more influence in the policy process. The type of power obtained can be considered transformative.

Overall, this was a time when ENGO's were very active, also in the policy process. However, there successes of these strategies were small. Reasons for this are the earlier mentioned broad way in which the debate was framed and the resulting focus on environmental issues only. But there was also an inherent problem with the strategies that were employed. Cramer was director of Milieudedefensie at the time. In my interview with her, she indicated that *'the dispersion that was visible in the environmental movement when it came to policy statements worked against us. We were publicly in discussion with each other, rather than with the people we tried to influence, while we were agreeing on the main points. This was a waste of energy.'* Another point of critique was towards the fact that most strategies to influence the policy process were pointed towards VROM, and not EZ. According to Cramer, it would make more sense to focus on the latter, as VROM is more or less already on your side.

Table 12 gives an overview of the different political resources mobilized and the type of power obtained by each actor group. Also, an attempt is made to indicate the relative effectiveness of these strategies. As Sabatier (2009) already touched upon himself, it is extraordinary difficult to further operationalize the political resources. This makes is

difficult to make statements about the level of effectiveness of the strategies employed. Nonetheless, I have made an attempt to do so in good conscience based on the data retrieved. ++ means the strategy can without a doubt be considered successful. + means this has been the case to a lesser extent. 0 means the strategy has clearly not been successful, or no statements can be made about this based on this research.

Table 12: Resources mobilized and power obtained, 1st Dutch policy window

Actor Group	Political Resource Mobilized	Power Obtained	Effectiveness
Regime Actors			
Political-administrative actors	Formal legal authority	Constitutive	++
Conv. Energy Companies	Information	Constitutive/transformational	+
	formal legal authority		++
Energy Intensive Industry	Public Opinion	Constitutive	0
	Mobilizable Troops		+
	Formal legal authority		+
Niche Actors			
Political-administrative actors	Formal legal authority	Transformational	0
	Information	Destructive	++
RE companies	-		
RE related Industry	-		
Unions	-		
Environmental Organizations	Public Opinion	Transformational	0
	Information	Destructive	0
	Mobilizable Troops	Transformational	+
	Formal legal authority to make policy decisions	Transformational	0

8.1.3 Policy Storyline

From the different strategies of the key actors discussed above, a policy storyline can be depicted. The analysis shows that landscape changes did take place in the late eighties. However, the debate was mainly framed around environmental concerns, even more specifically the greenhouse effect and associated sea level rise. Other possible external environmental pressures such as the aforementioned finite character of fossil energy sources, the dependency on imports, and the potential for a domestic industry, did not find their way into the issue network. The outcome was a much broader political discussion in which for instance consumption patterns, agriculture and energy efficiency became a part of the discourse as well (Cramer, 1989). This differed not only from the seventies, when the oil crisis emphasized our dependency on foreign energy. This even differed from the early eighties, when the debate was framed around the ‘CO² problem’,

linking it more directly to energy issues (Cramer, 1989). As a result, there was no specific focus on renewable energy.

Nonetheless, the policy window did open and there was room for niches to pressure the current energy regime. However, the regime took initiative and managed to steer the debate towards energy efficiency. Support for renewables remained limited to voluntary agreements, showcase projects and R&D support. When ministries would come with different policy instruments, industry and employee organizations immediately found their way around the ministries and started to directly pressure ministers and representatives in parliament.

At the same time, niche actors remained fragmented and did not find each other in a common strategy. VROM tried to steer the debate towards a regulating energy tax, but not all niche players were fully backing this and were continuously trying to steer the debate into a different direction. The interest organizations for RE were fragmented and all lobbied on their own (this lasted until 2002, when umbrella organization de Koepel was formed). Environmental organizations did also not speak with one voice. Although unions supported an energy regulating tax, they did not become a dominant force in the arena.

Next to the debate about voluntary agreements or more stringent policies, VROM made an attempt to relocate (parts of) the energy portfolio to their ministry. This debate did not fully enter the issue arena and was mainly held within the government and between the different ministers. The other actors, not even the political parties, made no strategies concerning this issue. In the end, nothing changed and energy portfolio stayed with EZ.

8.2 The nineties: market liberalization dominating the debate

The early nineties saw an economic recession and the environment became a less dominant issue on the agenda. The policy window was closed. During the remainder of the nineties, the energy issue arena became dominated by market liberalization. Although in the interview von Meijenveldt emphasized that environmental concerns were never off the agenda, he acknowledged that all policies fitted this new mantra. Examples of this are the fiscal instruments implemented that all tried to steer demand. These were the regulating energy tax in 1997 (that was implemented after all, but only for households and small energy users), the green certificates of 2001 and the coinciding disclosure of the market for green energy. Chapter five discussed the relative success of these policies in more detail.

A hostile climate

In the first years of the new millennium, the landscape became very unreceptive towards any radical change. This was the time of Pim Fortuyn, front man of the populist party LPF, operating on the right side of the political spectrum. He did not have much sympathy for the environmental movement in general. In an interview with Milieudefensie Magazine in 2001 Fortuyn says *'I don't believe that entire CO² story. There are too many experts that say the connection with the greenhouse effect cannot be made. And moreover: how bad is it really that the earth warms up? They can also raise their dikes in Egypt and Bangladesh. They should start to roll up their sleeves over there. Did you think we got the Delta works as a present?'* (Duyvendak, 2011, p162). Although extreme, it is a quote that fits this time period. Research showed that the interest for environmental issues is waning and the involvement is declining (Nas, 2000). It is also a period where climate skeptics find their way into the mainstream media, giving food for actors doubting the necessity of strong governmental action (van Soest, 2011).

When a conservative government coalition of CDA, VVD and LPF took office in 2002, some drastic measurements were taken that reflected the political climate. VVD, the liberal party, were keen on taking the ministerial post of VROM to ‘restore’ the damage done by the more progressive social-democrat Pronk. For the first time since 1972, the Netherlands did not have a minister of the environment, as this became a secretary of state (Duyvendak, 2011).

8.3 Second policy window: market failures and transition rhetoric

In the midst of this hostile climate, some landscape changes still led to the opening of a new policy window. Unlike the policy window of the late eighties where a ‘climate wave’ set the agenda, landscape changes mainly came from within the issue arena itself. There was not a strong society-wide movement that put pressure on the regime to make radical changes.

The most important pressure on the issue arena was that the regulating energy tax (REB) of 1996 had to be reviewed as it proofed to be an ineffective policy in combination with the free trade in green certificates that opened up in 2001. The subsidies given to green certificates in the form of an REB exemption went mostly to existing RE capacity abroad (see chapter 5). EZ (1990) and also newspaper articles from this period (Vos, 2002; ANP, 2002) show that this was by far the most important event to open the policy window. Next to this, a report of the International Energy Agency (EIA) emphasized the long-term vulnerability of the Dutch energy supply, as it was for more than 95% based on fossil fuels with no short-term prospects of any change in this ratio. Together with power failures in the U.S. and Europe, this made experts doubt whether long-term energy policy was in good hands when left to the market (de Jong, 2005). Actors became aware of the fact that a transition towards renewable energy was more than just an environmental issue. Fiscal instruments stimulating demand had proofed to be insufficient in dealing with these long-term challenges.

8.3.1 Strategies of the Regime Players

Political-administrative actors

In 2002, RE policy was still not a hot topic for political parties and hence the parliament. Agenda setting and policymaking came from within the different ministries and parliament only passively responded to these developments. The energy debate in politics was completely occupied with market liberalization. According to de Jong, it was not until 2004 and 2005 that parties started to develop a comprehensive vision for an energy future. If anything, the parliament that discussed the MEP was very skeptic towards RE because there was a majority of conservative parties (VVD, CDA and LPF).

Von Meijenveldt claims environmental concerns did play an increasingly important role at EZ. This is especially due to minister Wijers who, according to von Meijenveldt, gave ‘*environmental issues also an economic perspective.*’ Nevertheless, policies needed to fit within the dominant agenda of market liberalization. He argues EZ went on a limp by introducing economic instruments as an effort to reach the environmental objectives ‘*VNO-NCW was furious with us but we did it anyways.*’ He continues saying that ‘*Taking other measures would not have been wise, as we did not want to spoil the successes of the voluntary agreements. Furthermore, we had to be careful not to stack different policy tools at the same time.*’ Next to these economic instrument, actual targets were formulated for RE for the first time in 1998. These actions can be interpreted as using formal legal authority to obtain some transformative power. However, results were weak. There was for instance no strong position on how these targets should be reached.

Cramer agrees that liberalization was determining the policy debate, but had different views on the efforts of EZ. *'Energy politics was politics about how to become an energy exporting country rather than an energy importing country. Because of this EZ was fully deployed to fossil. The logic being that 20% was still imported, while solar was considered too expensive, wind energy was decentralized to provinces and municipalities – a strategy that led to a organizational mess, a 'wild west scenario'- and nuclear remained a point of discussion. Therefore, the focus became clean fossil and efficiency, sustainable had no place in this.'* My interpretation of these different readings is that EZ started to acknowledge the importance of RE. This was mostly because next to environmental issues, energy security was also put on the map. However, this was seen as an option for the distant future, and EZ remained a conservative force. In the end, a subsidy leak was the single most important reason to review the RE policies.

As a reaction to this open policy window, the government decided that energy needs an integrative policy. Therefore, EZ took a more central and coordinating role in all relevant policy areas. Concretely, this meant a more central role in areas such as sustainable construction and mobility – before the domain of VROM (SER, 2001). This gave EZ more formal legal authority in the energy domain.

According to van Soest (2011), EZ also applied strategies to dilute and delay. He states that high-ranking civil servants get instructions to slow down the pace when dealing with policies concerned with climate mitigation and adaptation. Van Soest did not back this statement up with any sources, but in an interview with von Meijenfildt of EZ a peculiar event happened. At the end of the interview, he casted his doubts about the relevance of CO², stating that there are a number of important questions that still needed answers. He said that first of all, climate change is still not undisputed. Furthermore, whatever we mitigate now, will only have an effect in 100 years or so. And rather than focusing on CO² in the higher air layers, it might be more effective to pay attention to methane that settles in the lower air layers. Also, we should not dismiss the effect of solar activity on global warming. This variety of arguments named in just one sentence does hind in the direction of the allegations of van Soest. It is not to say that (all of) these questions are wrong to ask. However, it does not display a sense of urgency and rather shows that EZ takes up environmental issues concerning energy policy, mainly because other actors pressure them to do so.

Conventional Energy Companies

Utilities were preoccupied with market liberalization. In order to give more room to the market, the energy distributing and producing companies had to be separated by law. The process leading up to this event was so erratic that it caused much distrust between the different actors involved (Köper, 2008). But in choosing their battles with the government, RE was not high on the agenda. In fact, the companies more or less embraced the regulating energy tax and the green certificates scheme. As explained in chapter five, energy companies used this scheme to keep and attract customers, leading to a boom in green energy demand. With big public campaigns conventional energy companies helped to steer public opinion towards an increase of the popularity of RE. When the subsidy leakage turned out to be untenable, EnergieNed, understood this policy needed to change. It communicated this to the press (ANP, 2002) and also participated in preliminary investigations with EZ. Again, the conventional energy companies were only moderately constitutive and were open for small transformations within the energy regime.

Energy Intensive Industry

The energy intensive industry did not change their position. They still pleaded to focus on energy efficiency rather than renewables. Voluntary agreements in the form of

benchmarking performances with other countries were their proposed policy tool. The strategies also remained similar. It is still employers' organization VNO-NCW that is the most important representative of the industry, with many industrial representatives in the board of directors (van Soest, 2011). The climate skepticism is continued, and VNO-NCW warns in different media about the consequences that Kyoto would have on employment. Furthermore, chairman Blankert states that *'we should not be the only country that bravely complies with Kyoto...certain developments in the environment we just have to accept'* (Duijvendak, 2011, p231). When necessary, VNO-NCW knew their way around the formal participation opportunities, directly influencing ministers and representatives in parliament.

According to van Soest (2011), it was not only the energy companies but also the energy intensive industry that took a more distant position from the government. The voluntary agreements of the nineties had run its course and EZ had to look for new policy instruments. Companies became less willing to engage into new agreements and Van Soest (2011) claims that especially the energy-intensive industry used the changing political climate of those years to cautiously cast doubts about climate change in different semi-private gatherings. This was 'not-done' a few years earlier. He calls this lobbying 2.0. Rather than the transparent strategies directly focused on policy makers, companies started less transparent lobby campaigns in which private interest increasingly influences the public discourse.

8.3.2 Strategy of the Niche Players

Political-administrative Actors

As described in the previous section, political parties and/or the parliament still did not play an active role in the policy process. This was not different for the niche players. Even GroenLinks had no explicit and strong agenda in this field. In the era Fortuyn, they focused more on social issues such as the multi-cultural society (Duyvendak, 2011b). The social-democrats (PvdA) developed a comprehensive policy report on energy for the first time in 2004 (De Jong, 2005).

This means VROM was still the main niche player. In the late eighties and early nineties, VROM took a very strong position on environmental issues with the ministers Nijpels and Alders. In 2002, minister Kamp focused more on the other aspects of his post, namely transport and spatial planning – leaving the environmental agenda to a secretary of state. Where in the past, EZ and VROM used to bargain over environmental issues in energy policy, their relationship became much more cooperative, hoping to influence the policy in this way. Claims to take over part of the energy portfolio were silenced. In fact, as described above, EZ got a more central and coordinating role in all relevant policy areas at the expense of VROM (i.e. mobility and spatial planning). In the policy process leading up to the MEP, VROM only played a minor role.

RE Companies

In 2002, RE companies tried to increase their lobby-power by founding De Koepel, an umbrella organization for all different RE interest groups in. In my interview with current strategic director Van Eickelenburg, she claimed that De Koepel has developed an effective strategy based on the mantra 'to do what connects us, and to leave what divides us'. When asked about the uncoordinated actions that took place between niche players in the past – between VROM, environmental organizations and RE companies – van Eickelenburg claims *'this is something that lies behind us. Everything we do is in coordination with all our members and other parties involved in the field, such as environmental organizations. We are constantly building linkages with each other'*.

This view is not shared by van Soest (2011) who remains critical. He says that the big problem is that the individual interest organizations still lobby by themselves, weakening the position of De Koepel and the general interest of sustainable energy companies. He argues this is different from EnergieNed, the interest organization for the conventional energy companies, who do succeed in speaking with one consistent and strong voice.

The archive (EZ, 2003) shows that De Koepel did gain a stronger position in the policy process by having a role in the consultation phase. Nonetheless, it is true that individual organizations for wind and water energy were also active as independent parties. Furthermore, EnergieNed was involved much more prominent in the process, by becoming already involved in the agenda setting phase and in the preliminary investigations. However, it is not necessarily the case that this is because they act as a unified actor. It is more likely that this is because of their stronger power position as a regime player.

Another important activity of De Koepel became to provide information about the potential of the different technologies for RE. According to van Eickelenburg this has become a core task due to the many changes of personnel within the public administration. This leads to civil servants with little knowledge about the topic they work on. The power obtained is destructive and innovative. It aims to destroy information provided by the lobby of regime players, but also provides new ideas and policy tools.

RE Related Industry

Since there has been no significant development of a RE related industry in the Netherlands, it is obvious that this industry did not gain much power in the policy process. Therefore, no clear strategies can be identified.

Labor Unions

In 2002, unions still did not become active in the policy process (De Jong, 2005). They are not mentioned in the secondary literature. The archive (EZ, 2003) show that they were invited and present in the large information meeting during the consultation phase of the MEP. However, no further records of input from labor unions or minutes from individual meetings can be found. This shows that they did not play an important role in the process and no strategies can be identified.

Environmental organizations

The position of environmental organizations at the beginning of the new millennium can best be characterized as a fragmented movement with different strategies. Where the doors to policy makers opened up during the eighties and nineties, environmental organizations cannot find their way to The Hague anymore, or are disappointed by the result and moved away from strategies that focused too much on participation with the government. Both Duijvendak (2011) and Cramer (in her interview) note that most organizations do not have an explicit strategy or campaign that focuses on RE during this time. A reason for this is of course that environmental issues were less prominent on the agenda during this second policy window. For example, WNF moved focused less on 'environment', and engaged in more positive strategies that focused on 'nature'. This strategy turned out successful; in 2010 WNF became the biggest ENGO with 900.000 members.

Greenpeace and SNM were the only organizations that still focused on RE. Greenpeace was active in lobbying and public campaigning. SNM was the organization that actually joined the policy process of the MEP, but only during the consultation phase.

Table 13 gives an overview of the different political resources mobilized and the type of power obtained by each actor group. Also, an attempt is made to indicate the relative effectiveness of these strategies.

Table 13: resources mobilized and power obtained, 2n Dutch policy window

Actor Group	Political Resource Mobilized	Power Obtained	Effectiveness
Regime Actors			
Political-administrative actors	Formal legal authority	Constitutive/transformational	++
Conv. Energy Companies	Mobilizable troops	Constitutive	0
	Public opinion	transformational	++
Energy Intensive Industry	Public opinion	Constitutive	0
	Mobilizable troops		+
	Formal legal authority		+
Niche Actors			
Political-administrative actors	Formal legal authority	Transformational	0
RE companies	Mobilizable Troops	Transformational	0
	Information	Destructive/Innovative	0
RE related Industry	-		
Unions	-		
Environmental Organizations	Public Opinion	Transformational	0
	Formal legal authority		0

8.3.3 Policy Storyline

The analysis shows that minor landscape changes took place in the early years of the new millennium. Concerns about future energy security and the failure of liberalized markets to respond to this became more vocal. However, this did not become a broad societal discussion at the time – this was rather a period of increased climate skepticism and a hostile political climate towards the environmental movement. The debate was confined to the issue arena. The main reason for the policy window to open up was the ineffective regulating energy tax that wasted taxpayers’ money to existing RE capacity abroad. In the policy debate that followed, this fiscal argument was the main reason for policy change. Environmental arguments were less dominant and energy security issues only played a role in long-term scenarios. The potential for a domestic industry and did still not find a prominent place within the issue network.

Not much has changed in the actors’ positions compared to the late eighties. The regime players remained a unified coalition. Especially the energy intensive industry had a strong and united voice against any policies that could damage the competitiveness of Dutch industry. The conventional energy companies, represented by EnergieNed, often spoke unanimously for all producers. This solidarity increased when producers and distributors had to be divided because of further liberalization of the sector. The

producers were disappointed with the way government handled and distrust between the two parties increased. The cooperative strategy of the companies to negotiate voluntary agreements disappeared. EZ managed to increase its formal legal authority to make policy decisions. With a stronger central and coordinating role for EZ at the expenses of VROM, regime actors knew that they would still be listened to in The Hague.

Niche players were still weak compared to this unified force. With the foundation of De Koepel in 2002, sustainable energy began to speak with one voice, although the different member parties persevered to lobby on their own. The economic significance of the RE related industry, making their impact on the process negligible. Overall, the niche players did not succeed in creating a bigger coalition. Labor unions did not get involved and the political climate was not suited for parties to express an explicit energy program focused on sustainability. Environmental organizations also lacked a common strategy and a clear agenda on sustainable energy.

When reconstructing this storyline, it can almost be seen as a surprise that the government decided to implement a policy based on a feed-in tariff. As explained above, this policy did not come about because of strong external landscape pressures, but came predominately out of two concerns within the issue arena. These were the adverse effects of the regulating energy tax and the fact that the successful promotion of demand asked for more (domestic) production. Therefore, when the MEP turned out to be costly it became clear that the supporting coalition for the promotion of RE production was not strong enough. It took just over a year for the MEP to be frozen. A little later it was stopped altogether. There was no support for the MEP itself, or for reforms that could make it more bearable for all parties involved.

9. Agency Analysis – Germany

A similar analysis of the one made in the previous chapter, will now be conducted for the German case. This means an agency analysis that takes a closer look at the strategies employed by the (groups of) actors identified in chapter six.

9.1 First policy window

At the landscape level, several developments in the late eighties led to the opening of a policy window for niche actors to push for new policies supporting renewable energy. Many of these developments were international, such as the nuclear disaster in Chernobyl, the Brundtland report, and previous successes of policies dealing with CFK's and acid rain (see section 5.2 for a more details). In Germany specifically, a study of the Federal ministry of Research and Technology – published in 1986, the year of Chernobyl – created momentum in the media. The report concluded that only reliance on efficiency and renewables would be compatible with the basic values of a free society. Furthermore, it would be less expensive than plutonium based electricity supply as envisioned at that time. In the same year, a report of the German Physical Society warning for an impending climate catastrophe received much attention (Jacobsson and Lauber, 2006). The policy window completely opened up when Chancellor Kohl declared that the climate issue represented the most important environmental problem (Huber, 1997). In his interview, de Jong argues that reactions to these external influences always seem to be more emotional in Germany. The impact of acid rain on forests became a much bigger issue in Germany than anywhere else. *'Das Waldsterben'*, De Jong explains, *'touched the German soul. The entire energy policy had to be reviewed. In England they had a different reaction, they simply built higher chimneys.'*

The policy window opened up an issue arena that used to be relatively technocratic; many actors throughout society became involved. The energy debate was not just framed around the broader topic of climate change – dependence on foreign energy and ideas about energy autonomy were a part of the discussion.

9.1.1 Strategies of the Regime Players

Political-administrative Actors

To discuss the role of parliament and individual political parties, it is again important to ask if the policy debate is based on clear visions of the political parties formed in the political spotlight, or whether these parties formed their position and judgment based on the proposals coming from the ministries. In the first case, political parties are clearly relevant for the policy process. In the second case they are not.

In Germany, energy policy has played a prominent within political parties over the years. An often heard reason for this is that Germany is the first country to get a green party elected into the parliament (in 1982). Die Grünen immediately claimed energy as an important issue, pressuring other parties to respond to this with a coherent energy program (Duyvendak, 2011b). Be that as it may, energy remained high on the agenda of the Parliament throughout the years. A strong sign of this is that it has not been the responsible ministries but the parliamentary party groups who took initiative and drafted most of the laws – something unusual for the German political system but almost a tradition when it comes to RE policies (Lauber and Mez, 2004).

Although credit is often given to Die Grüne, it is important to note that this policy debate came about during a time in which Germany was governed by a conservative majority coalition of Christian democrats (CDU/CSU) and liberals (FDP) for 16 years straight (between 1982 and 1998). These parties are traditionally more on the

side of the regime players. However, internal discussion about RE took place, especially within the CDU/CSU. Furthermore, in this central-right coalition, market liberalism was not high on the agenda. This was especially the case during the process of reunification, when particularly the energy and industry sector needed investments and subsidies (Ganseforth, 1996).

The ministry of economic affairs (BMW_i) has always been a conservative force acting out of the interest of regime players. Being in charge of the utilities, they found decentralized production uneconomic and foreign to the system. Furthermore, they did not want to subsidize technologies considered unfit for the market (Kords, 1993). BMW_i publically expressed their position. This way they tried to frame the discussion towards a strategy based on coal – attractive due to its abundant supply at home – and nuclear – because of its low carbon footprint and reliability (Jacobsson and Lauber, 2006). It can be seen as an attempt to obtain dominance over the political resource ‘information’, but since BMW_i did not make a serious attempt to back this with thorough studies one could also argue it is more an attempt to mobilize public opinion. The power obtained is constitutive.

Another strategy applied was that BMW_i did their best to delay or dilute any policy decision in favor of renewables (Kords, 1993). In other words, they used their formal legal authority to make policy decisions by not making any policy decisions. This strategy turned out to be unsuccessful. When they finally came with a weakened policy proposal the parliament decided to take over. The final draft was written again by BMW_i, by taking back initiative, they managed to limit the implications of StrEG (by for instance excluding biomass and combined heat and power).

Some states opposed energy reforms due to their coal interest. Some municipalities opposed due to their dependence on energy income. However, as some municipalities or states were not affected, there was no clear and common position or strategy towards the new RE policies and their influence remained limited.

Conventional Energy Companies

The utilities are organized in the association VDEW; they played an important role and can be considered a separate power factor in policy making (Lauber and Mez, 2004). Conventional energy companies were opposing any energy reforms. In an attempt to consolidate, BMW_i proposed to introduce a system of voluntary agreements that would gradually lead to a higher share of renewables in the overall energy supply (Stenzel and Frenzel, 2008). They did not accept this and rather went aboard with the proposed Feed-in tariff. The utilities argued that the only direct impact of the FIT would be the extra money they had to pay the hydropower from Bavaria. This was not conceived as a direct threat (Stenzel and Frenzel, 2008). Furthermore, they did not want too much political confrontation as the companies were absorbed with taking over the electricity sector of East Germany in the process of reunification (Richter, 1998). Because of this, the conventional energy companies remained relatively passive and did not have very strong strategies against the StrEG – something that would change later.

Energy Intensive Industry

Being one of the most industrialized countries in the world, industry has a strong voice in German policy making, mainly represented by the Federation of German Industry (BDI), a member of the employers’ organization BDA. Speaking on behalf of firms such as Siemens, BASF and Aventis, they were against any form of energy policy reform (Weidner und Mez, 2008). The BDI tried to prevent the law from being implemented by pressuring the coalition parties of the conservative CDU and FDP. This was without success as eventually the law was adopted in an *all-party* consensus. In his interview,

Oscher (civil servant for BMU, and actively involved in drafting the EEG), emphasized that industry never treated RE as a big threat, not even in the second time period.

9.1.2 Strategies of Niche Players

Political-administrative Bodies

As explained in the previous section, political parties and the parliament took a central role in the policy process – especially those in favor of RE. Unhappy with the efforts made by the ministry of economic affairs, political parties took matter into their own hands. As described in chapter seven, parliament founded an ‘Enquettenkommission’, a co-operation between parliamentary groups of both the government and opposition. This led to some confrontation between the government and the party leaders of the government coalition (Agnolucci, 2008). Nonetheless, the collective actions of the parliamentary groups provided that the feed-in law of 1990 – a significant and controversial piece of legislation – was adopted by a conservative government of the liberals and the CDU, and in an *all-party* consensus (Jacobsson and Lauber, 2006). This strategy is probably the clearest example of obtaining formal legal authority to make policy decision. The power obtained is transformative.

Although the ministry of environment (BMU) had gained authority over the CO²-reduction portfolio, BMWi attempted to keep the outside the policy process. As a response, BMU tried to assist the parliamentary committee where possible, as writing policy drafts are time-consuming processes for which ministries are much better equipped (in both manpower and expertise) than members or parliament (Kords, 1993).

RE Companies

The RE companies were still minor players, but as chapter seven described there were already many direct connections between parliament and the different interest organizations for RE. Solarenergie Förderverein (connected to Die Grünen), Eurosolar (connected to the social democrats), and last but not least interest organization for hydro power (VDW) whose chairman was also an MP for the CDU/CSU. This made it possible to effectively campaign within the political structure of party politics. A strength was that the RE interest organizations managed to create a common vision despite all their differences (Scheer, 2004), creating a relatively broad-based coalition.

An important factor for this was the hydropower interest organization. With 3500 individual producers with a mostly conservative background, they used their strong voice within the German confederation of small and medium-sized enterprises (BVMW) to successfully obtain their support (Michaelowa, 2008).

RE related Industry

At this time, the RE related industry was of no real significance. Some support came from farmers in the north of Germany that saw potential in allocating some of their land to wind turbines. Their strategies can be compared to those of the hydro producers, although their numbers were lower and their influence not as significant as well (Michaelowa, 2008).

Labor Unions

For this time period, unions are never mentioned as taking part of the policy process or having an outspoken position or strategy towards RE policy. Therefore, it can be assumed that they established no significant strategies.

Environmental Organizations

Energy was an important issue within environmental organizations, but this was mostly expressed through a strong anti-nuclear movement. (Rucht and Roose, 2001). The strategies of the organizations were mostly exclusive, characterized by protests and public campaigns aiming at confrontation and polarization, their action often being suppressed violently. More integrative strategies, meaning regularly consulting and even participation in government advisory bodies, were less common (van der Heijden, 1997). Most movements acted on a local or regional level. Their membership numbers were relatively low, with the four largest organizations having only 855.000 members in 1991 (van der Heijden, 1997, p39). This gave them a weaker position.

Oscher explains that concerning RE, environmental organizations found it difficult to formulate a coherent position. The two biggest organizations, NABU and BUND, were internally divided. The national leadership acknowledge the necessity of RE for a carbon neutral future. However, the strong local forces within the organization were much skeptical because of the impact RE, and especially wind turbines, could bring to nature.

Table 14 gives an overview of the different political resources mobilized and the type of power obtained by each actor group. Also, an attempt is made to indicate the relative effectiveness of these strategies.

Table 14: Resources mobilized and power obtained, 1st German policy window

Actor Group	Political Resource Mobilized	Power Obtained	Effectiveness
Regime Actors			
Political-administrative actors	Formal legal authority	Constitutive	+
	Information/public opinion	Constitutive	0
Conv. Energy Companies	Formal legal authority	Constitutive	0
Energy Intensive Industry	Formal legal authority	Constitutive	0
Niche Actors			
Political-administrative actors	Formal legal authority	Formal legal authority	++
RE companies	Formal legal authority	Transformative	++
	Mobilizable Troops	Destructive/Innovative	+
RE related Industry	-		
Unions	-		
Environmental Organizations	Public Opinion	Destructive	0

9.1.3 Policy storyline

From the different positions and strategies of the key actors discussed above, a storyline can be depicted. The analysis shows that landscape changes took place in the late eighties leading to the opening of a policy window. First of all, these were the environmental concerns. However, other themes found their way into the issue arena. Next to CO² emissions and energy efficiency, questions were raised about a plutonium based society and the dependency on foreign energy. Close connections of interest organizations with

parliament made the potential for a domestic industry already a part of the discourse. The outcome was a discussion that did not only focus on the issue of greenhouse gasses, but also on alternative energy sources and domestic production. The price decreases of fossil energy made clear that a long-term strategy for a diversified energy supply needed policies on a federal level. The focus of the debate became how such a government strategy should look like.

A relatively big but moreover diverse group of niche actors successfully clustered into a coalition in favor of policies for the promotion of RE. They did not only consist of the predictable associations for wind- and solar energy but also included a conservative base of small hydro producers, farmers. Their close connections to the members of parliament made it possible to effectively lobby within the structure of party politics. When parliament pressured government by drafting a members' bill, BMWi first started to dilute and delay the process. Also, they tried to reframe the discussion stating that renewables were not fit for the current system. As a last resort, BMWi attempted to negotiate voluntary agreements that would gradually lead to a higher share of renewables in the overall energy supply. However utilities did not want to go on board with this.

When BMWi did not take further action after the voluntary agreements were wiped of the table, it was the parliament that took initiative and demanded a FIT law to be worked out in detail by BMWi, who did so reluctantly. In the end, it was this small but diverse coalition that managed to push parliament, creating an all-party consensus in support of first modest policies that did not only focus on R&D and showcase projects, but also promoted the production of renewables.

9.2 The nineties: emerging markets, growing opposition

As shown in chapter 5, the StrEG led to a first boom in wind energy. For many, this boom came quick and unexpected. Especially utilities were surprised. They thought that at first that the promotion of renewables would only lead to a modest increase in hydropower (Stenzel and Frenzel, 2008). Together with industry, they started to put pressure on the political parties. However, even in the conservative majority of Christian Democrats and Liberals, they failed to get strong support. As a response, the utilities went to the court, claiming the law was unconstitutional. When this failed, the utilities went to the European Court, as they considered the FIT to be a state aid instrument, incompatible with agenda of market liberalization in the energy sector. Again, their efforts were unsuccessful (Michaelowa, 2008).

While resistance grew, the support for the feed-in tariffs was growing as well. The emerging market made the potential it gave to domestic industry a central theme, especially in former East Germany that was confronted with a huge loss in industry because of the reunification (Richter, 1997). Employment and foreign energy policy increasingly played a more important role in the public's climate change discourse (Weidner and Mez, 2008). When in 1997, the law had to be revised, it was clear that both proponents and opponents had become more vocal.

9.3. Second policy window: revisions needed

In the late nineties, climate policy was no key issue due to financial and other problems resulting from the German reunification. Furthermore, energy prices were very low, and dependency from foreign energy played no role (Jacobsson and Lauber, 2006). Very similar to the Dutch case, the second policy window did not come from important external landscape pressures. As described above, the StrEG had been surprisingly effective in promoting the production of RE, especially wind. However, there were also some design flaws that became apparent and had to be revised. First, there was the unfair geographical spread of the burden. Utilities that were active in the north had much

higher costs as wind farms were for a majority build in this region. Also, feed-in tariffs had to be revised as they were based on a percentage of present grid prices, bringing long-term insecurity (Bechberger, 2000). A political battle over the future of the FIT began that eventually led to the new EEG in 2000.

9.3.1 Strategies of Regime Players

Political-administrative bodies

In 1997, when the StrEG came under pressure, Germany was still governed by a conservative majority coalition of CDU and FDP. While they wanted to break down the FIT's, members of parliament from CDU did not support their own minister and voted in favor of a continuation of the current law. After the elections in 1998, a progressive majority coalition of SPD and Die Grünen was formed. This meant that the conservative forces in parliament lost much power. Especially the FDP was against a continuation of FIT's, and preferred a modest quota system. However, they did not gain support for this as the CDU, their biggest opposition partner, did not become too outspoken on the FIT reforms. (Bechberger, 2000).

Some municipalities had been big opponent of the StrEG due to revenue sharing and generous concession fees of regional utilities. This had changed because of market liberalization (Lauber and Mez, 2004). In fact, many municipalities started to adopt the Aachen-model (named after the city who implemented it first), a local Feed-in system. At a regional level, some states were still strongly against energy reforms due to their coal interests, but some Bundesländer started to actively support the scheme due to the growing significance of RE related industry (especially in the east) or hydropower (south) and wind power (north). These states and municipalities often had CDU/CSU members in their council, which had its impact on the parties' position on a national level.

With a new minister from the more progressive SPD, BMWi remained an influential regime player as minister Müller positioned himself as a strong protector of the industrial cause. So far, BMWi had reluctantly executed the policies that parliament had pushed through, but did not support them. When the law had to be revised, BMWi saw this as an opportunity to turn back these decisions. In 1997, BMWi came with a proposal to get rid of FIT's. Instead, BMWi wanted to introduce a quota system or focus more on energy efficiency (Lauber and Mez, 2004). When – after the elections of 1998 – it became clear that the FIT's would remain they started to dilute and delay the process again. Oscher explained that when the parliamentary group started to investigate the possibilities of further RE promotion, BMWi was simply did not want to cooperate. These strategies are both examples of attempting to mobilize their formal legal power to make policy decisions – by either coming with alternatives or by not making the decisions. This strategy did not change in the years after the EEG was adopted. In response, the government transferred the portfolio for RE to BMU after the 2002 elections.

Conventional Energy Companies

The utilities continued to find their way to the courts to fight the law but became divided over time. PreussenElektra started to see potential in big off-shore wind parks when it became clear that a revision of the StrEG would also make utilities eligible to receive FIT's, something that was not possible earlier (Stenzel and Frenzel, 2008). Additionally, PreussenElektra were willing to talk about reforms because they were in favor of equalizing the burden of the law on a national level. PreussenElektra was mainly active in the north, and therefore unevenly burdened by the FIT's as during the nineties, FIT's went for a great extent to wind power generated in the northern states. Lauber and Mez

(2004) confirm this trend of energy companies that become divided in their strategies. They observed that VDEW, the interest organization for utilities, became less powerful as utilities started to speak more and more on their own.

Energy Intensive Industry

The main industry association, the federation of Industry (BDI), still strongly opposed the FIT's and wanted to get rid of them. However, BDI also became divided on the issue when some main players saw potential in a RE industry. First, the association of the machinery and equipment producers (VDMA), an influential member of the BDI with 3000 members and 1 million employees, came with supportive press conference in 1997, joining the coalition in favor of a continuation of the law. Siemens, one of the biggest companies of Germany and an influential member of BDI, followed the example of VDMA and pleaded for a continuation of FIT's as the firm wanted to invest in a new solar energy plant in Germany and needed long-term security to do so (Jacobsson and Lauber, 2006).

The German federation of small and medium-sized enterprises BVMW, representing two thirds of all employment, was already silently supporting the StrEG due to the influence of the small hydro producers from Bavaria. In 1997, they took a permanent stand for the FIT's. Furthermore, farmers supported the continuation, as they had been one of the main beneficiaries of the first wind power boom. BDA, the overarching employers' organization and German equivalent of the outspoken Dutch VNO-NCW, did still not become an outspoken player and left the lobbying to a weakened BDI. The industry association was still against reforms, but they were not unified anymore and lost much of their power (Jacobsson and Bergek, 2004).

9.3.2 Strategies of Niche Players

Political-administrative actors

The government was an important actor to initiate the StrEG policy reform. In the strategic agreement between the SPD and Die Grünen, there is an entire paragraph that explicitly refers to a revision and continuation of the FIT's. It were also these two parties that eventually took the initiative to present a members' bill to the parliament, as they were unsatisfied by the efforts of the responsible ministry of economic affairs (Bechberger, 2000).

After the elections in 1998, the ministry of the environment (BMU) became the domain of minister Trittin from the Green party. BMU got actively involved in the policy process, trying to get more formal legal authority. However, Trittin was careful and took a mediating position, willing to make many compromises in order to gain broader support for the reform of StrEG. An example of such a mediating strategy was that next to BMWi and the association of renewable energies (BEE), BMU also conducted a study to help the preliminary investigations towards a revision of the StrEG, trying to find new innovative policy solutions that could reach a compromise between the two other parties (Bechberger, 2000). This mediating role would change after the elections of 2002, when the green party secured the transfer of the competency for RE from BMWi to their ministry.

Finally, some municipalities and states started to embrace a continuation and improvement of the FIT scheme due to successful local schemes (the Aachen-model) and growing regional significance of RE related industry in some states (Agnolucci, 2006)

RE Companies

The renewable energy companies, especially those active in wind power, had experienced a first boom during the nineties and became a significant voice in the policy debate. As a response to a preliminary investigation of BMWi that showed subsidies had been rather ineffective and expensive, the association for wind power (BWE) commissioned a study that displayed a different, with a focus on the fact that FIT's are not direct subsidies and all the economic potential of a thriving RE industry (Bechberger, 2000).

The new industry even got support of old regime players. In 1997 ASE and Siemens threatened to move abroad if market expansion at home did not take place. When a promise was given, they directly invested in a new plant. Shell also pressured policy makers to continue the program. When a promise was given they directly invested in two new production facilities that greatly expanded the German solar cell industry (Jacobsson and Lauber, 2006). Such a strategy is usually typical for regime players, and can be considered as a way to obtain constitutive power. It definitely tells something about how this industry matured during the nineties.

Agnolucci (2008) provides a different insight, claiming that the decentralized structure of the RE companies naturally leads to a growing coalition. For in 2003 alone, 50.000 new members joined the coalition, as this was the number of new pv-owners.

RE Related Industry

Where the energy intensive industry lost support, this was gained by the RE related industry. The association of the machinery of the machinery and equipment producers (VDMA) came with a press conference in 1997, and in the same year, it also hit the streets to protest the anticipated FIT cuts of the conservative coalition who was still in office then. Together with the VDMA, the metalworkers' trade union IG Metall was one of the first unconventional partners of the coalition in favor of FIT's, joining the protest against the cuts proposed in 1997. Their reason was clear, as the wind turbine business became the second most important customer in the German steel industry, after the car industry (Jacobsson and Lauber, 2006). They were followed by the workers union ver.di, representing public service employees, this led to a demonstration in which environmental organizations, farmers and even church groups joined the protests (a.o. Jacobsson and Lauber; Agnolucci, 2008; Weidner and Mez, 2008).

Environmental Organizations

Environmental organizations are almost never named as a crucial factor of success of the niche coalition and people have been rather skeptic about them. Scheer (2004) argues they have moved far away from their more radical past, only to become encapsulated by and dependent on the government. According to Mez (2003), there are no cases where environmental organizations have successfully mobilized the public to demand stricter regulations than those planned by government. This view is shared by Oscher.

Oscher emphasizes that did play a relevant role on the local level. As said before, when compared to the Netherlands, environmental organizations in Germany are less professionalized and more active on a local and regional scale (van der Heijden, 1997). A result of this was the successful campaigning on a local level that led to the adaptation of the aforementioned Aachen model in a number of municipalities. This model has been an important factor in the RE policy development in Germany and at least parts of it must be attributed to the efforts of environmental organizations.

Table 15 gives an overview of the different political resources mobilized and the type of power obtained by each actor group. Also, an attempt is made to indicate the relative effectiveness of these strategies.

Table 15: Resources mobilized and power obtained, 2nd German policy window

Actor Group	Political Resource Mobilized	Power Obtained	Effectiveness
Regime Actors			
Political-administrative actors	Formal legal authority	Constitutive	0
			0
Conv. Energy Companies	Formal legal authority	Constitutive	0
	Formal legal authority	Transformative	+
Energy Intensive Industry	Formal legal authority	Constitutive	0
Niche Actors			
Political-administrative actors	Formal legal authority	Transformative	++
	Information	Innovative	++
RE companies	Information	Destructive	+
	Mobilizable Troops	Constitutive	+
RE related Industry	Public Opinion	Transformative	+
	Mobilizable Troops	Transformative	+
Unions	Mobilizable Troops	Transformative	+
Environmental Organizations	Formal legal authority	Transformative	+

9.3.3 Policy Storyline

The analysis shows that minor landscape changes took place during the nineties. According to Weidner and Mez (2008) employment and foreign energy policy started to influence the public opinion on climate change policy. However, it was mostly developments within the issue arena that opened up the policy window. The burden of the FIT's was not shared nationally, resulting in the fact that utilities in the north were struck harder than those in the south. Furthermore, FIT's were set as a fixed percentage of the grid energy price, making them insecure regarding volatile fossil energy prices.

When the policy went under revision in 1997, opponents had become more vocal as they did not underestimate the implications anymore and 'did anything to stop them' (Stenzel and Frenzel, 2008, p.2649). The Feed-in system came under severe pressure. However, proponents had gained strength as well. The potential for a domestic industry became a central theme and employers' organizations and unions went so far as to mobilize their troops to protest abolishment of the policy. This resulted in a mass demonstration consisting of a number of different societal actors. Some states and municipalities, that used to be against strong energy reforms due to their received benefits, also became in favor. For the states this was due to the industrial potential, for municipalities this was because of the bottom-up lobbying and local initiatives that resulted in the mentioned "Aachen-model". Even big industrial parties such as Shell and Siemens lobbied in favor of a continuation. In the end, the Feed-in system persisted in a conservative government of FDP and CDU.

Once the new government of the SPD and Die Grünen was installed, it became clear that a revision but continuation of the FIT's would take place. When this was finally adopted in 2000, the government coalition parties had made sure to create as much support as possible. The law did not pass the house unanimously – as was the case with the StrEG – but many Länder representatives of the CDU/CSU voted against their party leadership. PreussenElektra, a big utility, supported the reform as potential for big offshore wind parks loomed and the regional inequality issue was dealt with.

This battle between an ever-growing coalition in favor of strong support for renewables versus the actors representing the vested interests of fossil and nuclear energy has been repeated a couple of times since. A first important moment was in 2004, when the rates for solar energy were revised to make them more attractive. Another big moment was in 2008, when Merkel and the CDU wanted to slowly dismantle the rates, and also again in 2012. So far, the supporting coalition has proven to be strong enough.

10. Agency Driven theory: Germany vs The Netherlands

In this chapter, I will answer the second sub question based on the analyses of chapter eight and nine. To repeat, the sub question is: *To what extent can agency-driven theory explain different policy outcomes in the Netherlands and Germany*

10.1 Testing the Hypotheses

In the theoretical framework, punctuated equilibrium (PE) advocacy coalition framework (AFC) and Multiple Streams (MS) were all discussed as examples of theories that give an agency-driven explanation for policy change. All three theories state that external perturbations or shocks are a necessary, but not sufficient, cause of significant policy change. In other words, a policy window needs to open up. For both countries policy windows opened up in the periods discussed, meaning that the assumption holds. Below, the four hypotheses discussed in chapter four are tested.

(5) If regimes have a lot of constitutive power, then there will only be room for status quo or incremental change in response to an open policy window

Chapter five showed that, although a policy window opened in the Netherlands, no significant policy change concerning RE occurred. In Germany, incremental policy change happened in the form of the StrEG that created some first framework conditions for RE production to develop. According to hypothesis (5), this would mean that both regimes have mobilized a lot of constitutional power and policy entrepreneurs could not create a breakthrough in the issue domain. To test this hypothesis, one must look at how much resistance regime actors displayed during the opening of the policy window. In other words, did the regime effectively mobilize the different political resources in order to obtain constitutive power?

When looking at the strategies used by regime players in the Netherlands, one can see that they did not necessarily use strong constitutive strategies. The conventional energy companies engaged in voluntary agreements with the government concerning modest RE targets, and started some small showcase projects for wind farms. EZ also seemed mild in their strategy, by opening the heretofore closed and technocratic issue arena and inviting niche players – such as environmental organizations – to the table. The only truly constitutive force was the energy intensive industry led by VNO and NCW.

In Germany, however, no such transformative approach was taken. The regime players did not want to react to the changing landscape and their strategies were constitutive or even non-existing. The conventional energy companies did not really react towards the opening of the policy window. A reason for this is that they were not really interested in the topic because they were preoccupied with the German reunification and the opportunities this offered. Furthermore, they did not see sustainable energy as a threat to their business and hence did not want to enter the field. As a result, they did not want to engage in voluntary agreements proposed by BMWi.

Interestingly, this constitutive/transformational approach of the Dutch regime players led to a situation in which they managed to remain in a very strong power position. The regime constituted formal legal authority by keeping the (entire) energy portfolio under the responsibility of EZ. Furthermore, EZ kept initiative in the policy process by engaging in voluntary agreements with the other regime actors. The regime also created dominance over the resource 'information', as the energy producers steered the policy discussion towards energy efficiency rather than renewables. At the same time, the constitutive/no action approach of the German regime gave niches the opportunity

to take some initiative. BMWi lost formal legal authority over the process as parliament took over from the ministry and wrote a members' bill. The parliament was unsatisfied because the ministry did not come with any form of legislation, even failing to reach voluntary agreements. With niche players taking the initiative in the policy process, the focus was much more on renewables than on efficiency alone.

During the second policy window, similar patterns are visible. In the Netherlands, EZ started to connect the environmental and economic aspects, introducing some demand-driven policies and embracing a long-term 'energy transition' process. And rather than fighting the green certificates, utilities embraced them as a marketing tool. The energy intensive industry was the only regime player with an outspoken constitutive approach. In Germany, the utilities started to attack the FIT's fiercely, even fighting the law in court several times. According to Scheer (2006) this only strengthened the opposition's conviction that support for renewables could not come through old institutions. BMWi applied several strategies to obtain constitutive powers as well. For the parliament, this was once more reason to take over the initiative.

This observation of different strategies chosen by German and Dutch regime players exposes a weakness of the hypotheses based on transition theory. The hypotheses assume that regime players will do anything to constitute powers for the survival of the current societal system. However, it is more likely that they will do anything to constitute powers for the survival of their own position. Often these interests are similar, but it is perfectly rational that individual regime players adopt transformative, innovative and/or destructive strategies toward the regime they are a part of, because they anticipate to societal change. This thesis gives some striking examples of this. The Dutch ministry of economic affairs giving formal legal authority to environmental movement, and the energy producers that started to experiment with RE. Another interesting example is Shell, an active regime player in the Netherlands who started to lobby for a continuation of FIT's in Germany. A strong example outside the scope of this thesis is Spain, where it is the utilities that have been taking the lead in the energy transition and pushing for policy change that would support this (Stenzel and Frenzel, 2008).

A framework that would better explain the different strategies of Dutch and German regime players is provided by Stenzel and Frenzel (2008). They identify four different types of *political management strategies*: defensive, reactive, anticipatory and proactive. From this view, Dutch strategies can be considered reactive, while German strategies are more defensive. The reactive approach in the Netherlands has been more successful, also for the regime as a whole. However, based on this research I cannot draw the conclusion that this reactive approach was purposely carried out in order to constitute power for the regime. It is more likely that the actors thought it was the best way to defend their own position in reaction to changes in society. These reactions could also have been defensive (like in Germany), anticipatory, or pro-active (like in Spain).

(6) If niche players have a lot of innovative and/or destructive power, then incremental policy changes are more likely to happen as they have the possibility to generate policy oriented learning within the dominant coalition.

This hypothesis connects the theory of deep core beliefs and policy core beliefs from ACF with that of the power framework from transition theory. Since it is dealing with beliefs, it is important to add that it only refers to the resource information. Because the ACF assumes that policy oriented learning usually happens over a period of a decade or so, I do not look at the policy windows individually, but at the total timeframe under study. Over this entire period, Germany has seen significant policy change, meaning that

the hypothesis cannot be tested on this case. The Netherlands did only see incremental policy change. According to hypothesis (6), this means that policy oriented learning must have happened within the dominant coalition. We have seen that in the time period between the late eighties and the early years of the new millennium, only the policy core beliefs about the environment have changed. However, these changes have only been mild: climate skepticism is still enrooted in the regime and especially the energy intensive industry continuously downplays the role that Dutch emissions have in this global phenomenon.

In the early years of the new century, some concerns were raised about the dependence on foreign energy. However, the debate was mainly about whether this could be handled by a liberalized energy market or not. The interviews with De Jong and Cramer confirmed that fossil was still seen as the only way to reduce Dutch imports. The finite character of fossil and the potential renewables have for a domestic industry did not enter the regime. In other words, there was some, but no significant policy oriented learning in this direction. One could conclude from this that this policy oriented learning lead to the policy change, but I consider this causal relation to be rather weak. I therefore conclude that the hypothesis gives a rather weak basis to explain policy change in the Netherlands.

(7) If niche players have a lot of transformative power, then larger policy changes are more likely as it may lead to the replacement of the dominant coalition by a minority coalition.

The German case study showed large policy changes. According to hypotheses (7), this would mean that niche players mobilized a lot of transformative power. The analysis showed that this is clearly the case: policy change did not happen through policy oriented learning of the regime, but through the replacement of the dominant coalition by a minority coalition. Political parties, interest organizations, unions, employers' organizations and environmental organizations managed to cluster and form a coalition for the promotion of RE. This minority coalition obtained transformative power concerning for instance formal legal authority (the parliament taking over) and mobilizable troops (thousands of members going to the streets) to an extent that has not been seen in the Netherlands.

(8) If actors have a lot of systemic power, then they have more influence in the policy outcome.

MS does not differentiate as much between the *type* of policy change, i.e. incremental change or punctuations. However, it puts much emphasis on the success actors have in combining the different streams of problems, politics and policies. Actors who manage to do this successfully have more influence in the policy outcome.

The Netherlands is a great example of how the combined capacity of regime actors increased their influence in the policy outcome. In the late eighties, the *problems* stream in the Netherlands was framed rather broad around the greenhouse gas effect and coinciding sea-level rise. Niches did not manage in taking the pro-environmental public opinion and information at the time to use it as a political resource against the current energy regime. Attention did not go to specific targets such as energy plants, but problems were framed around general issues such as agricultural practices and consumption patterns – something completely different than for instance the anti-nuclear movement ten years earlier. Regime players used this by framing *problems* in the direction of energy efficiency, which would not be a direct threat to their core business.

In the light of this *problems* stream, the *policies* stream was quickly narrowed down to whether this should be achieved through a regulating energy tax, or through voluntary

agreements. The ministry of economic affairs, the conventional energy industry and the energy intensive industry used their combined capacity to mobilize resources in order to steer the policies stream in the direction of voluntary agreements.

The issue of RE never became a really hot topic in the *politics* stream. It is my opinion that this can also partly be ascribed to the regime actors. The ministry of the environment had just completed a progressive environmental policy plan that *did* manage to dominate the *politics* stream. As an extension of this, they asked EZ to come with a policy concerning energy and the environment. Would the regime actors have failed to reach voluntary agreement, chances were that VROM would have brought the issue more to the attention of the *politics* stream, maybe even taking over the initiative themselves, just like the parliament did in Germany.

The developments in the second policy window show a somewhat different pattern. This has mainly to do with the *problems* stream. Both niche and regime actors had little influence in this, because the problems stream brought to the policy arena was not energy related, but had a strong fiscal character: the subsidy leak had to be stopped. The *policies* stream became how to replace it with a policy that could support some domestic energy production. Due to a hurry to fix the leak before the next year, no elaborate external consultations were made and a decision for the policy tool was made within the ministry based on an internal study of EZ. The *politics* stream was never really there to manipulate. Even with a cabinet that had resigned, the issue did not become controversial as all parties wanted to fix the leak as soon as possible.

According to hypothesis (8), the German regime never successfully united the capacity of their actors to combine the multiple streams. In the late eighties, the *problems* stream focused more on energy-related issues than in the Netherlands. A reason for this is that discussion was not only about the greenhouse effect, but also about dependence on nuclear and foreign energy. Unlike in the Netherlands, the ministry of economic affairs did not manage to come to a policy proposal that was supported by the conventional energy companies and the energy intensive industry. In other words, regime actors did not manage to jointly mobilize their resources to get dominance over the *policies* stream. As a direct result of this, the parliament took over the initiative making the issue a hot issue, activating the *politics* stream.

During the second policy window, the ability of the regime actors to jointly mobilize their resources to combine the multiple streams further decreased. The *problems* stream included now also the support RE could give to a domestic industry, while environmental issues (due to Kyoto) and dependency on fossil and nuclear fuels were still on the agenda. Efforts to steer the policy stream were taken by BMWi who proposed a quota system, and conventional energy companies who attempted to fight the feed-in system in court. But these efforts were not combined and both attempts were unsuccessful. The clearest example of German regime players who do not have the united capacity to mobilize their resources is their failure of steering the *politics* stream. Former regime actors in industry (machine builders, metal workers), and energy companies (PreussenElektra), started to mobilize their resources against the regime by publically pressuring politics into continuing the FIT's.

10.2 Conclusion

This chapter tried to give an answer to the sub question (2): *to what extent can agency-driven theory explain different policy outcomes in the Netherlands and Germany?* Before coming to the final conclusions, some reservations must be made. The aim of this chapter was to systematically identify the strategies applied, resources obtained and powers mobilized by all (groups of) actors.

First of all, where there is an archive that holds information about many of the relevant events in the policy process, there is no such archive for strategies of the key players. Identifying them has been a difficult task – especially for the less well documented Dutch case – going through many papers, books, websites and archives, and talking to some key experts in the field. It is hard to determine where to search and when and where to stop in order to get a complete picture. Besides, more than once results were contradictory, making it ever more difficult to establish what really happened. Nonetheless, the political resources proved to be a useful typology as they could be conceptualized rather easily giving a good structure to the case studies. However, operationalizing them into measurable and comparable units is extraordinary difficult, making it hard to compare between cases whether one (group of) actor(s) has been more successful in mobilizing them than another. Thirdly, the power typology did not always fit the observations. The only conservative power named is constitutive, while it seems that there are many incidences in which regime players employed very different strategies. When a regime player gives up powers of the regime (i.e. transforms the distribution of resources) to try and protect their own position, is this power called transformative, or constitutive? More nuances would serve the analysis.

Although the model might have some shortcomings, it is important to realize it is not meant as an absolute model, but rather as a tool with which you can look at the patterns of interactions and resource exchange. This then helps to answer the question to what extent agency-driven theory can explain different policy outcomes in the Netherlands and Germany, to which I will turn now.

Concerning political resource, it is especially those actors that obtain formal legal authority that have been successful in steering policy outcomes. It seems that mobilizing information, public opinion and mobilizable troops is not enough to create real impact. In other words, significant policy change is less likely to happen as long as the policy process itself is dominated by regime actors, led by the ministry of economic affairs. At the same time, it is evident that you need those other resources to obtain this crucial formal legal authority. This might seem as an obvious conclusion, but it is still an important one to emphasize. Once niches mobilize their resources, they must engage in a power play to obtain formal legal authority, otherwise their attempts will be smothered by old regime structures.

This is confirmed by the testing of hypotheses, which focused on the power obtained. Hypothesis (5) shows that the amount of constitutive power has proven to be a weak indicator of policy change. From the research, it can be concluded that there is no reason to assume constitutive forces have – overall – been much larger in the Netherlands. For the energy intensive industry, this probably has been the case, but for the conventional energy companies, it seems to be the other way around. Hypothesis (6) shows that innovative and destructive powers cannot be attributed much explanatory value as well. Hypothesis (7) shows that only when transformative power is mobilized, significant policy change can be expected. Again, it is evident that you need innovative and destructive powers to obtain transformative power, but this extra effort does have to be made to achieve policy change in the hotly contested energy domain in which policy core beliefs are so strong that policy-oriented learning is not likely to occur.

In sum, although actor-driven characteristics are difficult to analyze, the agency-driven approach is a useful tool to study the patterns of interactions and resource exchange and provides an insightful overview of the policy process. Since the hypotheses did not all hold, one must be careful with attributing too much power to the predictive capacities of the model. Nonetheless, it can describe and explain policy change in much more detail and with much more nuance than the structure-driven approach has done.

11. Agency and Structure: a dualistic approach

The goal of this thesis is to find explanations for the different policy outcomes in the Netherlands and Germany. Chapter 2 discussed a number of theories that try to do so from either a structure or an agency perspective. These theories have formed the basis for respectively the structure analysis of chapter 7 and the agency analysis of chapter 8, 9, and 10. However, as discussed in section 2.4, dividing the research in a part that looks at structural drivers and a part that looks at agency-drivers will not be sufficient. This is called *dualism* and implies some sort of co-existence of the two drivers. In reality, they do not co-exist because they are two sides of the same coin: structures are both the means and the outcomes of action, resulting in the fact that structure and agency are inextricably linked, rather than mutually exclusive. This is called *duality*. The reason they are inextricably linked is that they co-determine each other as a process of change *over time*. Treating them independently means that you disregard time as a variable, seeing structure only as the means of action, forgetting it is also the outcome of action. This section will aim to integrate the two individual approaches hoping to lift this agency/structure research to a higher level that goes beyond conclusions that explain policy change by ‘a little bit of agency, and a little bit of structure’.

Since structure and agency co-determine each other as a process of change over time, the process of policy change has to be observed over different time intervals in order to penetrate the agency/structure relation. This is the reason this research has focused on two policy outcomes in different time periods. According to the theory, the success of the German EEG compared to the Dutch MEP cannot be explained without also looking at the late eighties, when both countries took completely different policy paths after almost two decades of similar RE policies. The question to ask now is to what extent this has been the case.

StrEG: building of coalitions and the beginning of a parliamentary tradition

The StrEG was not considered a great success at the time. Kords (1993) wrote an extensive work about the genesis of the StrEG, and came to the following conclusion: although it was an exemplary case of parliamentary initiative, he considered the final result to be a frustrating and worrisome disillusion. Some years later, he probably would have come to very different conclusion, for the impact of the StrEG has been relevant for two main reasons.

First, the – modest – support for wind- solar- and hydropower enabled these niche markets to further develop. The consequence of this was for many people unexpected: a few years later, industry associations and unions protested together with RE interest organizations, farmers, and church groups for the continuation of feed-in tariffs. Even some conventional energy companies spoke out and gave their support. They became an active and unavoidable part of the policy process leading up to the EEG, changing the structural characteristics of the policy network to an extent that would have been unimaginable in the Netherlands.

Second, the StrEG broke up the old structure of policy making through strong parliamentary action. This is not common in German policy making, but since the StrEG almost a tradition when it comes to energy policy. Again, this altered the structural characteristics of the policy network by changing the technocratic policy process led by the conservative ministry of economic affairs.

BES: new environmental concerns, old conservative structure

In the Netherlands, the outcome of the BES policy process did not lead to much structural changes of the policy network. The voluntary agreements between EZ and the

conventional energy companies gave both regime actors a strong and central position. In addition, they did not enable niches to further develop as regime players took the lead in – unsuccessfully – experimenting with renewable energy. Also, a stronger focus was given to biomass and waste incineration. These energy sources can be used to co-fire coal plants or to be blend in with fossil fuels. Hence, they better fit the old socio-technical system of fossil energy.

The value of duality in explaining policy change

The two separate researches of thesis shows that explaining the success of German RE policy compared to the Dutch RE policy using either a structural approach or an agency approach is both possible and meaningful. However, there is a danger of dualism, meaning that the final conclusions treat agency and structure as being mutually exclusive. This section showed that treating them as inextricably linked as a process of co-determination over time can give some conclusions that go beyond a little bit of agency and a little bit of structure.

This adds a dynamic character to the otherwise static structural research by showing that the favorable structural conditions leading to the German EEG where the result of actions taken in the past. The same, of course, can be said about the unfavorable structural conditions of the Dutch MEP that at least partly found their origin in the actions taken during the late eighties. Making strong conclusions based on structural research stating the success of the German EEG can be attributed to favorable structural conditions, disregard the dynamic process of actors that constantly shape and reshape these same structural conditions.

This approach of agency/structure duality also gives the much-needed context to the actor analysis. It clearly shows that, although the strategies to mobilize resources to obtain power were very successful in the policy process of leading to the German EEG in 2000, this cannot completely be attributed to the purposeful behavior of the actors themselves. The differences in structural conditions would most likely have made the same actors/strategies unsuccessful in the Netherlands. The reason for this is that in both countries, a clear path dependency is observable. This path dependency is often given the negative and constraining connotation that ‘things are not in your own hands’, as there is this process of incremental change in which events are largely shaped by previous events and actors only have limited influences in shaping the outcome. However, this research showed this is only a part of the story. Actors do more than influencing policy outcome within the limitations imposed by network structures. They can also actively shape this structural context in which they operate. This means that structure does not only constrain actors, but also give opportunities for actors cognizant of their structural context to strategically place evolutionary actions in their attempts to obtain power. The approach of agency/structure duality emphasizes this relation.

12. Final conclusions

In this final chapter, I will give an answer to the main research question. *To what extent can the conflicting theories of structure-driven and/or agency-driven policy change explain different policy outcomes in the Netherlands and Germany concerning the transition to renewable energies?* I will do this by first summarizing the results, advantages and disadvantages of both approaches, followed by the conclusions about agency/structure duality. Some theoretical recommendations are given for further research. The second part of this chapter will deal with the practical implications of this thesis. I will make some concrete recommendations to how policy outcomes might be reached that can fasten a transition to renewable energy.

Structure

The structural analysis of this thesis showed that *structure matters*. The policy processes in the two countries had different characteristics to the extent that clear tendencies could be identified in the form of embeddedness of regime and niche players, the individual centrality scores of regime and niche actors, and the type of interaction.

The advantages of a structural analysis are that it imposes a schematic scheme, which helps to be systematic and complete in describing patterns of social relations, clarifying a complex and blurry policy process. The matrices and graphs that are the outcome of the network analyses summarize and present a lot of information in a quick and easy way, clearly defining the structural constraints and opportunities that the actors face. Moreover, they make it possible to compare different cases.

A disadvantage is that the data gathered must preferably be completely symmetric, something rather difficult when comparing between different time periods and different countries. Another important point of critique is that a structural research based on the different phases of the policy cycle put too much emphasis on the (formal) moments of the bureaucratic decision-making process. This disregards important content and context aspects such as undocumented informal moments, and intransparent lobby-campaigns.

Agency

The agency analysis of this thesis showed that those actors who obtained formal legal authority over the policy process, successfully steered policy outcomes. In Germany, it has been an unusual coalition of niche players that, through parliament, *took over* the formal legal authority from the ministry of economic affairs, obtaining the associated transformative powers. In the Netherlands, it has been the combined efforts of regime players that, through the ministry of economic affairs, *managed to keep* formal legal authority over the policy process, obtaining the associated systemic powers.

The advantage of an agency analysis is that you can look at the patterns of interactions and resource exchange without being confined to (formal) moments of the bureaucratic decision-making process, enabling an analysis much richer in detail and with more nuance regarding content and context. Interestingly, the results show that this same bureaucratic decision-making process was in fact a crucial determinant: public opinion, information and mobilizable troops are all important, but it is dominance over formal legal authority that made the difference.

A disadvantage is that identifying the different strategies is no straightforward task. Additionally, although the policy resources are easily conceptualized, operationalizing them into measurable and comparable units is extraordinary difficult, making it hard to compare between cases. This makes it problematic to make statements about the significance of each resource individually, but also about how they are

interrelated. For instance, it is evident that you need information, public opinion and mobilizable troops to obtain this crucial formal legal authority, but to what extent this is the case is hard to determine and asks for further research.

Structure/Agency Duality

The analysis of agency/structure duality showed that it is not the question to what extent agency *or* structure-driven approaches can better explain policy change. On the one hand, an actor-analysis needs to explicitly deal with structural aspects, as this research showed that network structures are more than just a metaphor of the actions of actors. There is a clear path dependency observable that creates a structural context that both enables and limits actors, and that differs between the two countries. In other words, the actors who made it possible for the German EEG to come about, would – using the same strategies – most likely not have been successful in the Netherlands.

On the other hand, a structural analysis needs to acknowledge the role of agency, since it not only postdates but also predates structure. This analysis of agency/structure duality clearly showed that these structures are not static or deterministic in nature, but are continuously shaped and reshaped by actors – purposefully or not. Thus when an actor participates in a policy process, it must be aware of the fact that it cannot only affect the policy outcome directly, but also indirectly by influencing the structure of the process. In other words, the success of the German StrEG was not necessarily the (modest) achievements of RE support, but also the beginning of a parliamentary tradition and some first framework conditions that laid the basis for an unusual niche coalition to arise. The Dutch BES did the opposite. Through voluntary agreements between the conventional energy companies and the ministry of economic affairs, the regime players kept dominance over the policy process, while their showcase projects prevented niches to further develop.

Theoretical lessons

Political scientists who focus on agency-driven policy change claim that structure is nothing more than a metaphor of the patterns of interaction and resource exchange between actors. It is argued that the tedious and difficult task of network analysis does not add much value to since network structures does not have any explanatory value in itself. This research showed that structure matters and is more than a metaphor and consequently should be taken into account. Furthermore, using the software applications APES and UCINET, the task becomes rather straightforward. I recommend such an approach to anyone who wants to clarify a blurry and complex policy process. Additionally, the results present information in a quick and easy way, and make comparisons between cases possible.

It is especially this lack of straightforward procedures, the absence of information that can be presented quickly and easily, and the difficulty to operationalize and compare between cases, which turned out to be the greatest weakness of the agency-analysis. Nevertheless, the agency analysis did manage to add detail to the research and brought the necessary nuance in context and content. Above all, the agency/structure duality showed that agency matters too, since it is actors who constantly shape and reshape structure in a process of co-determination over time. A policy analysis needs to not acknowledge this duality and include a focus on agency to add dynamics to the otherwise static structural approach.

Recommendations

This research shows that clear relations can be made between the structural characteristics of a policy network, and the policy outcomes. Actors aware of the

possibilities and constraints of this structure are not only able to mobilize resources in order to effectively influence policy outcome within a given policy network, but also have the potential to employ strategies that can alter these structural network characteristics. Consequently, some concrete advice can be given to the Dutch case that might be able to fasten the transition towards renewable energy.

First of all, the structural analysis shows that the embeddedness of niche players is much higher in the German case. The agency analysis shows that this has been the result of the clustering of several niche players. In Germany, it has been the potential for a domestic industry that brought together this unusual coalition consisting of a varied group of actors ranging from environmental organizations to metal workers. It is too easy to conclude that the Netherlands should do the same. In fact, most of the infant industry that existed in the Netherlands already moved to Germany over the last twenty years. I think it is fair to say that this boat has sailed and the Netherlands should look for other unusual linkages that can bring together such a coalition. Possibilities could be to focus on consumers and their powerful interest organizations. Up till this point, consumers have never played a significant part in the RE policy process. However, this might change with rising energy prices and a number of renewable technologies that are close to or beyond grid parity (the point where producing RE is equal to the price of purchasing power from the grid). Besides, in the liberalized Dutch energy market, consumer rights and energy prices already play a dominant role in the discourse. For example, in June 2012 only, 182.000 households switched from energy supplier (Smit, 2012), making present and future energy prices a point of discussion. This gives opportunities. For instance, is it from both an environmental and a consumer perspective still defensible that a coal plant pays no VAT or excise duty, while a solar panel does include a 19% VAT? This is just one suggestion, but there can of course be many more linkages that could form the basis of an unusual coalition, which can increase the embeddedness of niche players in a policy network.

Second, the structural analysis shows that it matters who the central actors in a policy process are. The agency analysis confirms that no drastic policy changes are to be expected when the ministry of economic affairs takes the lead. In Germany, it has been the efforts of parliament and the ministry of environment that brought policy change. The lesson that can be learned from this is that there should be less focus on the policy outcome, but more focus on the policy process. The central role of the ministry of economic affairs needs to be breached in for significant change to occur. To illustrate, when the Dutch green party recently became part of a temporary government coalition, they immediately tried to design a policy for the support of RE. The proposal was to bring down VAT-taxes from 19% to 6%, since RE is not a luxury good. Soon, the responsible ministry of economic affairs stripped down this proposal to a subsidy of 13% (where you have to apply for yourself) with a ceiling of 22 million euros in 2012 and 30 million euros in 2013. Thereafter, the subsidy will be cancelled, adding another chapter to the Dutch stop-and-go policy. Based on this research, it might have been more effective not to propose a new policy, but demand that the RE portfolio itself should be moved to a different ministry.

This observation connects nicely to my third recommendation. The structural analysis confirms that large policy change is more likely to occur when interactions are conflictual of nature. The agency analysis shows the German transition process is not characterized by a harmonious society of actors that all have the same goal in mind. It is a continuous battle in which persistence of the niche players made the difference. Do niche players in the Netherlands want to speed up the transition process, the gloves must come off, ending the bargaining and cooperative nature of energy policy making.

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Appendix A: Actor-Event Matrixes

BES Actor-Event Matrix

	Agenda Setting	Preliminary Investigations	Working out the Draft	Consultation	Draft Modification	Decision
Government	1	0	0	0	0	2
Parliament	1	0	0	0	0	3
Min of Econ	2	3	3	3	3	0
Min of Env	3	2	1	1	1	0
Electricity Network Operator	0	0	0	1	0	0
Independent Research Institutions	0	2	0	1	0	0
Law Implementing Body	0	2	0	1	0	0
Conventional Energy Companies	0	1	2	1	0	0
Energy Intensive Industry	0	1	0	1	0	0

MEP Actor-Event Matrix

	Agenda Setting	Preliminary Investigations	Working out the Draft	Consultation	Draft Modification	Decision
Government	3	0	0	0	0	2
Parliament	0	0	0	2	0	3
Min of Econ	2	3	3	3	3	0
Min of Env	0	0	0	0	2	0
Min of Fin	1	0	1	1	0	0
Elec Network Operator	0	2	2	1	0	0
Ind Research Institutions	0	0	2	1	2	0
Law Impl Body	0	0	2	0	0	0
Conv. Energy Companies	1	1	0	1	0	0
Energy Intensive Industry	0	0	0	1	0	0
Sust. Energy Companies	0	0	0	1	0	0
Environmental Organizations	0	0	0	1	0	0

StrEG Actor-Event Matrix

	Agenda Setting	Preliminary Investigations	Working out the Draft	Consultation	Draft Modification	Decision
Government	0	0	0	0	0	2
Parliament	3	3	3	0	0	3
M.Econ	0	2	0	3	3	0
M.Env	1	1	1	0	0	0
M.Res	1	1	0	0	0	0
Ind. Research Inst.	0	1	0	0	1	0
Conventional Energy Companies	0	1	0	2	0	0
RE Energy Companies	2	1	2	0	0	0

EEG Actor-Event Matrix

	Agenda Setting	Preliminary Investigations	Working out the Draft	Consultation	Draft Modification	Decision	Agenda Setting
Government	3	0	0	0	0	0	2
Parliament	2	0	3	3	2	3	3
M.Econ	0	3	0	2	3	1	0
M.Env	0	2	0	2	2	2	0
Ind. Research Inst.	0	1	0	0	0	1	0
Conventional Energy Companies	1	1	0	0	0	1	0
Energy Intensive Industry	0	0	0	0	0	1	0
RE Energy Companies	1	2	0	2	0	1	0
RE Energy Industry	1	0	0	0	0	1	0
Unions	1	0	0	0	0	1	0
Environmental Organizations	1	0	0	0	0	1	0

Appendix B: Actor-Actor Matrices Participation Sum Values

BES Actor-Actor Matrix Participation Sum Values

	Gov	Par	M. Eco	M. Env	El Net Op	In Res Ins	Law imp	Conv E	Ener Int
Gov	0	7	3	4	0	0	0	0	0
Parl	7	0	3	4	0	0	0	0	0
M. Econ	3	3	0	22	4	9	9	13	8
M. Env	4	4	22	0	2	6	6	8	5
El Net Op	0	0	4	2	0	2	2	2	2
In Res Inst	0	0	9	6	2	0	6	5	5
Law imp	0	0	9	6	2	6	0	5	5
Conv E	0	0	13	8	2	5	5	0	4
Ener Int	0	0	8	5	2	5	5	4	0

MEP Actor-Actor Matrix Participation Sum Values

	Gov	Parl	M. Econ	M. Env	M. Fin	El Net Op	Ind Res Inst	Law imp	Conv E	Ener Int	Sust E	Env Org
Gov	0	5	5	0	4	0	0	0	4	0	0	0
Parl	5	0	5	0	3	3	3	0	3	3	3	3
M. Econ	5	5	0	5	11	14	14	5	11	4	4	4
M. Env	0	0	5	0	0	0	4	0	0	0	0	0
M. Fin	4	3	11	0	0	5	5	3	4	2	2	2
El Net Op	0	3	14	0	5	0	6	4	5	2	2	2
Ind Res Inst	0	3	14	4	5	6	0	4	2	2	2	2
Law imp	0	0	5	0	3	4	4	0	0	0	0	0
Conv E	4	3	11	0	4	5	2	0	0	2	2	2
Ener Int	0	3	4	0	2	2	2	0	2	0	2	2
RE comp	0	3	4	0	2	2	2	0	2	2	0	2
ENv Org	0	3	4	0	2	2	2	0	2	2	2	0

StrEG Actor-Actor Matrix Participation Sum Values

	Gov	Parl	M.Econ	M.Env	M.Res	Ind Res Inst	Conv Energy Com	RE Energy Com
Gov	0	5	0	0	0	0	0	0
Parl	5	0	5	12	8	4	4	14
M.Econ	0	5	0	3	3	7	8	3
M.Env	0	12	3	0	4	2	2	8
M.Res	0	8	3	4	0	2	2	5
Ind Res Inst	0	4	7	2	2	0	2	2
Conv Energy Com	0	4	8	2	2	2	0	2
RE Energy Com	0	14	3	8	5	2	2	0

EEG Actor-Actor Matrix Participation Sum Values

	Gov	Parl	M.Econ	M.Env	Ind Res Inst	Conv Energy Com	Energy Int Ind	RE Comp	RE Ind	Unions	Env Org
Gov	0	10	0	0	0	4	0	4	4	4	4
Parl	10	0	14	14	4	7	4	12	7	7	7
M.Econ	0	14	0	17	6	6	2	11	2	2	2
M.Env	0	14	17	0	6	6	3	11	3	3	3
Ind Res Inst	0	4	6	6	0	4	2	5	2	2	2
Conv Energy Com	4	7	6	6	4	0	2	7	4	4	4
Energy Int Ind	0	4	2	3	2	2	0	2	2	2	2
RE Com	4	12	11	11	5	7	2	0	4	4	4
RE Industry	4	7	2	3	2	4	2	4	0	4	4
Unions	4	7	2	3	2	4	2	4	4	0	4
Env Org	4	7	2	3	2	4	2	4	4	4	0