university of
groningen

faculty of spatial sciences

The Ecological Modernization Discourse and the Community Acceptance of Large-scale Wind Power Projects in the Netherlands: A Problematic Marriage for Policy-making
A case-study of Windfarm N33

Author: Philip Jan Pohle
Supervisor: prof. dr. C. Zuidema
Program: MSc Environmental and Infrastructure Planning
University: University of Groningen
Faculty: Faculty of Spatial Sciences
Date: April 19, 2021
Word count: **21632** (*excl. tables and figures*)

Abstract

The implementation of large-scale wind power in the Netherlands is lagging behind. Social acceptance issues – in particular community acceptance – have hindered the development of these projects. To research why community acceptance issues have not been properly addressed and resolved, this thesis examined the policy-making for 'Windfarm N33'. This research expected, based on a literature review, that the overarching policy-making discourse of ecological modernization has hindered the inclusion of certain community acceptance factors in policy-making of Windfarm N33. This research identified four discursive tendencies of EM for policy-making; business-oriented, scientistic, techno-centric, and universalist. Discourses and their tendencies are relevant for policy-making as they shape and demarcate the frame of reference to what counts as a valid statement or argument in policy-making processes and hereby influence what counts as an environmental problem and what policies or instruments are subsequently considered to resolve it. To research how ecological modernization affected the policy-making of N33 with regards to community acceptance, this research conducted a single case study based on evidence derived from a documentary desk-study and semi-structed interviews with a qualitative deductive content analysis as its text interpretation method. All in all, this research found a clear resemblance between the policy-making of Windfarm N33 and the discursive tendencies of ecological modernization as the policy-making process showed a preference for technical and environmental factors relevant for shaping community acceptance while structurally neglecting other factors.

Keywords: *Policy-making, sustainable energy, community acceptance, ecological modernization, discourse, wind energy, environmental politics*

Acknowledgements

List of abbreviations

CPB	Bureau for Economic Policy Analysis
DvhN	Dagblad van het Noorden
EA	Energy Agreement
EIA	Environmental Impact Assessment
ECN	Energy Research Centre of the Netherlands
POP	Provinciaal Omgevingsplan
EM	Ecological Modernization
INTVW	Interview
IPO	Interprovinciaal overleg
Ministry of HSPE	Housing, Spatial Planning, and the Environment
Ministry of EA	Ministry of Economic Affairs
Ministry of IE	Ministry of Infrastructure and the Environment
MWL	Monitor Wind op Land
NIP	National Integration Plan
RCR	Rijkscoördinatieregeling
NEA	Netherlands Enterprise Agency
NPWE	National Plan for Wind Energy
SL	Scope and Level-of-detail Windfarm N33
SPOW	Spatial Perspective for Onshore Wind
SVIS	Structural Vision Infrastructure and Space
SVOWE	Structural Vision Onshore Wind Energy

Table of Contents

List of tables and figures

Chapter 1: How it all connects

1.1 An introduction to wind power

In an effort to make the society and economy of the Netherlands more 'sustainable', the Dutch national government decided for a transformation of its 'energy supply' (*in Dutch: energievoorziening*; *Energy Agreement, 2013; EA)*. In short, the general aim is to move away from traditional energy generation primarily based on fossil fuels, towards energy generation based on renewable energy sources (for example wind, thermo, and solar). In contrast to traditional energy generation, renewable energy sources *(renewables)* are in principle inexhaustible. In addition, the adoption of renewables provides a window of opportunity to address some of the environmental issues (i.e., emissions and pollutions) usually related to traditional energy production (*Breukers, 2007*).

In the context of the Netherlands, wind power has been on the forefront of this energy transition (*EA, 2013*). It is positioned by policy-makers as one of the most technically and economically realistic methods for renewable energy generation (*Agterbosch et al., 2007; Cowell, 2007;* Arshad and O'Kelly, 2019;). Whereas *off*shore wind power has only recently become a viable option, *on*shore wind power has already been implemented at a relatively large scale. Since the 1970s, the Dutch government has been designing various policies to stimulate onshore wind power developments (*Breukers and Wolsink, 2007i)*. As of now (*2021)*, the government still aims to hit its 2020 onshore wind power target of 6000MW (*EA, 2013*). In order to attain this target – at least partially, the government decided for eleven large-scale wind power projects of at least 100MW. This capacity was considered to be of 'national importance' for attaining the target (*Structural Vision Onshore Wind Energy, 2014; SVOWE*). Also, local planning authorities were considered to have insufficient capacity to deal with (*large*) scale-dependent issues (*Horbaty et al., 2012*). Therefore, to ensure the development of onshore wind power, several 'wind potential areas' were selected by the national government based on characteristics derived from technical research into scenic and natural values as well as average wind speeds (*Akerboom, 2018*). Subsequently, in collaboration with the provinces, eleven specific sites within these potential areas would be selected for the actual turbine development (*Structural Vision on Infrastructure and Space, 2012; SVIS; SVOWE, 2014*). These siting decisions would again be predominantly based on technical measures such as 'wind power potential', population density, and landscape functions (*Akerboom, 2018*). When finalized and operational, these wind power projects should have accounted for almost 3000MW by the year 2020. Yet, progress has been rather limited and the intended targets will most likely not be met until at least 2023 (*Monitor Wind op Land, 2018; MWL*). The *NEA (Netherlands Enterprise Agency)* attributes these delays to the ponderous policy-making and implementing processes resulting from the Netherlands being a country with a high population, institutional, and spatial density (*MWL, 2018; see also Toke et al., 2008*). Others however point at the policy-making process itself and state that the focus on centralized decision-making resulted in the negligence of local social, environmental, and spatial planning issues (*Flacke and De Boer, 2017)*. Over time, the failure to address such issues has resulted in strong local opposition directed at wind power projects (*Breukers and Wolsink, 2007i; Breukers, 2007;* Kluskens *et al., 2018*).

Even though public opinion is favorable towards wind energy in general, the implementation of onshore wind power has not been trouble-free, with the most contested issue being the actual siting of the wind turbines *(Wolsink, 2007; Breukers, 2007; Breukers and Wolsink, 2007ii; Warren et al. 2012; Suškevičs et al., 2018)*. Among others, noise pollution,

'high' visibility, and intermittent shades are problems often associated with wind power (*De Boer and Zuidema, 2015*). Moreover, these new structures are negatively valued by most people when it comes to the perceived environmental and landscape qualities of a specific site (*Wolsink, 2010*). Especially in rural areas – the designated location for most onshore wind turbines in the Netherlands, consenting to wind power requires tradeoffs involving landscape aesthetics, place-based identities, and deeply held values about nature (*Warren et al., 2005; Wolsink, 2006 cited in Cowell, 2007*). Further, *Pasqualetti (2000)* attributes this negative attitude towards wind turbines to a fundamental difference between traditional and renewable energy systems. The prolonged use of traditional energy systems – which are mostly centralized and visibly scattered, has resulted in a spatial and psychological distance between energy generation and the consumer. In other words, citizens are oblivious to the environmental costs (*i.e., landscape impacts*) of 'their' energy production. In contrast to traditional energy generation, wind power is location-dependent and highly visible, thus rendering the environmental costs much more apparent. Altogether, these factors can contribute to a local negative attitude towards wind power projects often described as the NIMBY (*not in my backyard*) phenomenon (e.g., *Bell et al., 2005; Breukers and Wolsink, 2007ii; Fournis and Fortin, 2017*). In turn, this (*NIMBYism*) has resulted in fierce local opposition which has proven to be a serious obstacle to the extensive implementation of onshore wind power in the Netherlands (*Breukers and Wolsink, 2007i*). Especially with regards to the realization of large-scale projects, NIMBYism has been identified as one of the main reasons for various siting-related conflicts (*Devine-Wright, 2011*).

1.2 Social acceptance for large-scale wind power

In accordance with the above, *Flacke and De Boer (2017)* identified two main reasons for the low development of wind power projects in the Netherlands; *1)* an emphasis on centralized policy-making resulted in limited institutional capacity of local decisionmakers and an underestimation of spatial and environmental planning issues, and *2)* local resistance towards large scale wind power developments hindered the eventual implementation (*NIMBYism*). *Wüstenhagen et al. (2007)* capture both these two barriers within the overarching framework of '*social acceptance*', which can be broadly defined as "*a favourable or positive response (including attitude, intention, behaviour and—where appropriate—use) relating to a proposed or in situ technology or socio-technical system by members of a given social unit (country or region, community or town and household, organization)*" (*Upham et al., 2015 quoted in Leiren et al., 2020*). In turn, social acceptance can be further divided into three types of social acceptance: a) socio-political acceptance, b) community acceptance, and c) market acceptance. Socio-political acceptance is concerned with the acceptance of renewables by key stakeholders and policymakers. Community acceptance refers to the acceptance of siting decisions by local stakeholders, residents, and authorities. And finally, market acceptance is used to explain the adoption of renewables by the market, in particular by consumers (*Wüstenhagen et al., 2007; Flacke and De Boer, 2017*).

With regards to the Netherlands, specifically community acceptance is seen as the 'bottleneck' for extensive wind power implementation (*Wolsink, 2012*). Community in this sense is about the people or local society living in proximity to the actual wind turbines and, therefore have to deal with the direct audible and visual impacts of wind power projects (*Horbaty et al., 2012*). To illustrate, prevalent key issues for the local community are; a) visual intrusion of the landscape, b) devaluation of the ecosystem, c) decreasing standard of living (*socio-economic*), and d) a worse quality of living (*personal*) (*Horbaty et al., 2012*). *Devine-*

Wright (2011) attributes the failure of policy-makers to resolve such community acceptance issues to a skewed understanding of the NIMBY concept. Among developers and policy-makers NIMBYism is often seen as an obstacle which 'simply' needs to be overcome for the implementation of renewables (*Breukers and Wolsink, 2007ii; Wolsink, 2018*). This understanding has resulted in efforts to limit public engagement to allay local opposition or community acceptance issues rather than creating space for open discussion and citizen participation *(Devine-Wright, 2011)*. Whereas these social acceptance issues were previously marginalized as 'non-technical' and residual questions (*Carlman, 1982 cited in Wüstenhagen et al., 2007*), the social dimension of wind power implementation has over the past few decades emerged as an important factor for instituting socio-technical change; i.e., the adoption of renewable energy technologies *(Warner, 2010; Minsch et al. 2012)*. However, in the case of wind power, social acceptance has repeatedly been taken for granted based on the general public support for renewable energy sources (*Wolsink, 2010; Horbaty, 2012; Suškevičs et al., 2018*). Reasons for local opposition were continuously considered less valid than those of the project implementors based on the idea that NIMBY-related responses were considered to be a form of '*local selfishness*' (*Vlek, 2000 cited in Breukers, 2007*). In the end, this has resulted in the tendency to constantly overlook acceptance issues at the implementation or local level (*Wolsink, 2010*).

For large-scale wind power projects in the Netherlands, social acceptance issues rose to prominence during the planning and construction phase of the eleven 100MW large-scale wind farms (*Akerboom, 2018*). Community acceptance issues in particular were easily overlooked. Within the N33 project in Groningen (*150MW*) for example, people have been concerned with falling real estate prices, negative implications for their health, ugly landscapes, low frequency noise pollution, vibrations, intermitted shades, and ecological damages (*Broesder, 2019; De Haan, 2019; Klungel, 2020; Stikfort, 2020; Minnema, 2020*). Yet, even though the impact of wind turbines is quite extensive for the proximate community, local public participation and involvement has been limited (*De Veer, 2020i*). In the case of the N33 project, local opposition even became so extreme as to it leading to multiple criminal investigation and several lawsuits (*De Haan, 2019; Meijer, 2020; De Veer, 2020ii*). Nevertheless, these problems are not limited to the N33 project alone as other large-scale wind power projects in the Netherlands encounter similar critiques and resistance (*see for example: Van Schie, 2019*). In addition, the above-described issues can also be found within the academic literature. For example, *Horbaty et al. (2012)* found that large-scale wind power projects ordinarily showed great difficulty for including small shareholders due to high costs, long time frames, the involvement of larger corporations and governments, and other scale-dependent externalities such as supporting infrastructure that surpass the local or community level. Withal, these 'struggles' clearly reflect governance deficiencies and raise the following questions; why has the government opted for these large-scale projects over small-scale projects? Why have social acceptance issues been neglected? And, why have citizens not been included in the decision-making process through a form of participation? Considering that these decisions were made on the national level (*SVIS, 2012; SVOWE, 2014*), it is important to touch upon what ideas have driven or influenced the decision-making and policy-making process at this – *national* – level.

1.3 Policy discourses and ecological modernization
In general, the field of environmental policy-making is pervaded with many uncertainties and ambiguities *(Smith and Kern, 2007)*. This is the result of environmental issues *"being*

characterized by incomplete and disputed knowledges about complex causal processes, and contests over what the environmental problems mean for society, in terms of both consequences and tradeoffs" (*Hajer and Versteeg, 2005; Dryzek, 1997; cited in Smith and Kern, 2007*). These different understandings determine how environmental issues are framed and whether environmental issues are addressed (*Smith and Kern, 2007*). Combined, the framing, negotiated meaning, and ways of solving these environmental issues can be conceptualized as a discourse according to *Hajer (1995)*. He defines a discourse as "*(…) an ensemble of ideas, concepts, and categories through which meaning is given to social and physical phenomenon, and which is produced and reproduced through an identifiable set of practices*". Discourses become important in policy-making processes at the point where they are used as 'rationalities'; the frame of reference to what knowledge counts as a valid statement or argument in the policy-making process (*Stevenson, 2009*). As such, policy-making takes place within a framework of 'ideas and standards' that prescribes the 'nature' of the issue itself, the policy goals, and the available instruments to attain these goals (*Hall, 1993*). In other words, discourses demarcate the rationality in which the policy-making process takes place and subsequently influence – through these rationalities – what counts as a problem, what policies or instruments *are* considered to resolve it, and also what policies or instruments are *not* considered. Especially in democratic liberal economies – as is the Netherlands – the influence of discourses on policy-making is considered to be significant as it involves a process of argumentation and persuasion (*Hajer, 1995; Szarka, 2004*). As a consequence, these discourses can be used to find and explain biases, tendencies, and patterns in the policies of such societies (*Potter and Tilzey, 2005; Smith and Kern, 2007*).

The current prevailing discourse in the Netherlands for environmental policy-making is the *ecological modernization* (EM) discourse (*Smith and Kern, 2007; Kemp, 2010; Mol et al., 2013; Curran, 2015*). According to *Christoff (1996)*, EM is basically concerned with how industrial societies recognize and respond to environmental problems. With regards to policy-making, the EM discourse proposes a win-win solution in which capitalist innovation can profitably decouple economic growth from environmental degradation (*Mol, 1995*). Even though EM strongly resembles the concept of *sustainable development* (*SD*) with regards to aligning economic and environmental interests, it is considered to be *"an analytically more rigorous concept with a sharper focus (…) on exactly what needs to be done with the capitalist political economy"* (*Dryzek, 2005 quoted in Breukers and Wolsink, 2007ii*). By fundamentally embedding the ecology in decision-making and putting emphasis on utilization and development of more 'efficient' new technologies, EM aims to establish an ecologically rational economy (*Breukers and Wolsink, 2007i*). In other words, EM focusses on the development and implementation of economically justifiable new technologies to ameliorate environmental issues (*Toke, 2011i*). Further, it promises to do all this within the boundaries of the capitalist political society, thus without the need for radical societal change (*Mol and Jänicke, 2009, Ch. 2, p. 24*). In the beginning EM predominantly advocated a 'techno-corporate' and centralized decision-making process based on expert knowledge (*weak EM*), but gradually over time, the concept was advanced in theory and practice to increasingly recognize the importance of social and cultural factors (*Strong EM*; *Christoff, 1996*). Further, whereas the concept first emerged as a descriptive theory of how industrialized nations dealt with environmental issues during the 1980s, the derived lessons later provided a prescriptive framework for 'environmentally sound' policy-making (*Mol et al., 2013, Ch. 2, p. 15*). It was within this discursive framework that the policy-making process regarding large-scale wind power projects in the Netherlands took place.

1.4 A problematic relationship

The institutionalization and development of wind power is considered to be a typical example of EM (*Toke and Strachan, 2006; Breukers and Wolsink, 2007ii*). Wind turbines as a renewable energy technology provide new business opportunities while simultaneously producing environmental benefits without requiring radical change of the societal structure. Also, as a renewable energy technology, wind turbines allow for addressing environmental concerns through what is basically a solely technological solution or fix. These characteristics make for a perfect fit with the overarching policy-making discourse of EM as both economic and environmental goals could be pursued within the current institutional landscape with an emphasis on technological innovation (*Breukers, 2007*). Hence, when following the ideas of EM, the development of wind power within an EM framework seems promising and extensive implementation should not have been a problem. However, thus far, in accordance with *Breukers and Wolsink (2007i)*, it is argued that the policy line regarding large-scale wind power implementation in the Netherlands has not been so successful.

Various social acceptance issues – in particular community acceptance issues – still persist and continue to hinder the overall implementation of wind power. Moreover, especially with regards to large-scale wind power developments, these social acceptance issues have become a serious concern. As it is now, the Netherlands will not be able to attain the agreed-upon target of 6000 MW in 2020 further delaying the attainment of a full energy transition towards renewable energy generation (*MWL, 2018*). Further, when taking into account that the policy-making regarding these large-scale wind power developments was made within an EM discourse, it is possible that the prevailing discourse plays a part in the constant neglecting of community acceptance issues in policies. In other words, within an EM policy discourse the emphasis on technological innovation and a techno-corporate orientation might have been significant for the structural neglecting of social issues within the relevant policy field. In order to prevent future large-scale wind power projects from suffering the same fate and prevent further hindering of the Dutch energy transition, it is important to properly examine the underlying discourse of the relevant policy-making process at the applicable level. In addition, scholars have repeatedly asked for more practical knowledge regarding the use of EM especially for environmental policy-making (*e.g., Glynn et al., 2017; Ewing, 2017; Howes et al., 2010; Lidskog and Elander, 2012*). Therefore, the aim of this research is twofold; first it aims to contribute to environmental policy-making by examining how the ecological modernization discourse of the Netherlands has affected the policy-making regarding the community acceptance of the large-scale wind power project Windfarm N33, and secondly, the paper will try to advance and add to the body of knowledge concerned with the practical consequences or uses of EM for environmental policy by concretely identifying discursive EM tendencies in the with the above related policy-making (documents). In more practical terms, this research aims to find whether the policy-making process resembles EM and whether this is has been relevant for the constant negligence of community acceptance and the subsequently related – community acceptance – issues. Hence, the main research question is as follows:

How did the ecological modernization discourse affect the policy-making for the large-scale wind power project Windfarm N33 with regards to community acceptance?

To answer the main research question step-by-step, *three* research sub questions were formulated as followed:

1. What implications can be expected from an EM discourse on policy-making?
2. How does the policy-making of Windfarm N33 compare to the literature on EM and community acceptance?
3. How – if at all – can the EM discourse and community acceptance be related within the policy-making of Windfarm N33?

1.5 Reading guide and general research design
First, through a literary review, the potential effect of EM on policy-making will be made clear. Second, by providing a discussion of community acceptance, the seemingly problematic relationship between the two will become apparent. Then, to answer the main research question, this thesis will focus on *one* of the eleven large-scale wind power projects in the Netherlands; i.e., Windfarm N33. Even though this thesis only examined a single case, the research is considered to also hold added value for the other large-scale wind power projects as the policy-making processes and contexts are relatively similar (*see Ch. 3, p. 29*). Further, within this case, the research will first examine whether and how EM and community acceptance are represented in the policy-making of the project through a qualitative analysis of documents, and subsequently, by also conducting multiple interviews, this research aims to relate the two.

Chapter 2: Theoretical backdrop

The following chapter will provide a theoretical framework to embed and position this research within the current academic debate regarding the relevant concepts; ecological modernization, policy discourses, and community acceptance. The discussing of these concepts will lead to a better understanding of these concepts and how they might be related. To end this chapter, a conceptual model is provided to illustrate and summarize its theoretical prepositions.

2.1 Relevant environmental history

The emancipation of the natural environment in the environmental decision-making processes of Western industrialized societies has not always been self-evident. Until the 1960s, the relationship between human society and the natural environment was characterized by a nature-society dichotomy and human exceptionalism rooted in the dominant societal notions 'the Chain of Being' and 'the idea of progress', both reinforced by a predominantly Christian socio-cultural context (*McLaughlin, 2012i*). These environmental sociological concepts aim to explain the historically biased relationship between society and the natural environment. In short, the 'Chain of Being' refers to a hierarchical understanding of the world in which God is the 'ideal state', humanity follows in second place, and the natural environment is understood as only being the 'décor' that is to be dominated and used indefinitely to human liking (*McLaughlin, 2012ii*). Combined with the 'idea of progress', a continuous quest for development and progress to reach a divine-like level of 'being' (*McLaughlin, 2011, 2012i*; *Howes et al., 2010*), the natural environment fell victim to a rather biased relationship in terms of unrestricted human use and was understood as a *'black box'*. That is, its role was to simply supply energy and resources while simultaneously absorbing produced wastes (*Spaargaren and Mol, 2009*). However, due to the manifestation of various environmental and ecological problems on an increasingly higher spatial scale (often referred to as '*the environmental crisis'*), it became apparent that the natural environment could "*no longer be treated as a void in its functions, whether as a stock or dump for material entities, to be used endlessly and free of charge*" (*Spaargaren and Mol, 2009*). *Fuller (1969)* would illustrate this 'newly' found vulnerability of Earth by writing "*we are all astronauts*". Later, *Hajer (1995)* would reiterate this example by beginning his groundbreaking book '*The Politics of Environmental Discourse: Ecological Modernization and the Policy Process*' by describing the symbolic importance of the first picture of 'spaceship earth' made during the Apollo space program in the beginning of the 1960s. This picture – 'it is said' – would be the first step in a fundamental shift in thinking about the relationship between society and the natural environment (*Hajer, 1995*). Withal, this revelation and the further unfolding 'environmental crisis' would spark the political and scientific environmental debates of the 1970s and 1980s which in turn would function as a conceptual foundation for environmental politics from the 1990s onwards.

During the 1970s, environmental protection attracted the attention of social scientists who in particular were looking for what kind of institutional reform was required to correct for the skewed relationship between society and the natural environment. "*The main focal points were on how human behavior, capitalist institutions, a culture of mass consumption, failing governments and states, and industrial and technological developments, among others, contributed to the ongoing deterioration of the physical environment*" (*Mol et al., 2013*). The debate was generally characterized by the believe that an antagonistic relationship existed between (economic) development on the one hand and environmental protection on the

other *(Berger et al., 2001)*. In other words, the protection of the natural environment and economic growth were perceived to be unreconcilable and mutually excluding goals. This understanding was further exacerbated by many Western industrialized countries responding to these new environmental concerns with predominantly restrictive legal-administrative regulations (*Curran, 2015*). These responses would function as a brake on economic development further emphasizing the perceived polarity (*Curran 2015; Hajer, 1995; Mol, 1995*). In contrast to the advocates of economic development, *"radical environmentalist believed that only a fundamental reorganization of the social order would bring about an ecologically sound society"* (*Berger et al., 2001*). All in all, this time was characterized by the exclusionary debate which revolved around the shared perception that there is a trade-off between environmental and economic objectives (*Berger et al., 2001*). It is against this backdrop that EM theory was developed (*Toke, 2002*).

2.2 Use of concept

Before this thesis can discuss EM theory substantially, it is important to first elaborate on how the concept is used. This is especially relevant for EM as it is considered to be of a *dual nature*. That is, on the one hand it provides the conceptual framework for analyzing ecological societal transformations, while simultaneously shaping and prescribing normative notions for directing these ecological societal transformations (*Mol, 1995*). As such, even though EM was initially intended as a means to examine and reflect upon how modern industrialized societies respond to the ecological crisis, it has evolved to also function as a theoretical basis for environmental policy-making in terms of both the analyzing of existing policies and more practically as a 'best-practice' framework for future environmental policy-making (Murphy and Gouldson, 2000). In other words, EM is used both as a descriptive and as a normative or prescriptive concept (*Mol, 1997*). This distinction, however, has become less black-and-white within the academic literature through the extensive exchange of ideas and cross-fertilization between the descriptive and the prescriptive sides. *Breukers and Wolsink (2007i)* illustrate it as follows: "*Current EM theory emphasises the close relationships between analysis, criticism of current practices, and options for improvement in production and consumption on the one hand and transformations and designs of institutions on the other" (Buttel, 2000; and Mol & Spaargaren, 2000 cited in Breukers and Wolsink, 2007i).* This spiraling influence has resulted in a close interrelatedness of the two sides within the EM literature and led to the construct being interpreted and given meaning differently among scholars (*Curran, 2015; see Glynn et al., 2017 for an extensive overview).* These are, but not limited to, EM as technological advancement (*Weale, 1992; Huber 1982*); as an industrial modernization plan (*Huber, 1982; Janicke and Weidner, 1997*); a discourse (*Hajer, 1995*); a social theory (*Buttel, 2000; Mol, 2000; Mol and Spaargaren, 2000*); and a political program (*Dryzek et al., 2002; Mol, 1996*). Yet, this diversification of its use does not prevent the formulation of its origins and core themes as these remain more or less similar throughout the literature (*Mol, 1995*).

2.3 Theoretical foundations of ecological modernization

The concept *ecological modernization* mainly originated from the works of Joseph Huber (as a form of super-industrialization; *Huber, 1982*), Martin Jänicke (as a response to state-failure; *Jänicke, 1993*), and later Albert Weale (as a practical policy program; *Weale, 1992*) during the 1980s and 1990s (*Murphy and Gouldson, 2000*; *Mol, 1995*). At this time, the term EM was developed to describe the process of how modern industrialized societies coped with the environmental crisis (*Breukers, 2007*). Instead of repeating the previously discussed

exclusionary environmental debate, EM theorist found another opportunity to address the current environmental problems; one that would not require the abandonment of the current path of ongoing industrialization and modernization (*Mol and Spaargaren, 2000*). Or as *Mol and Jänicke (2009)* phrase it: "*EM does not dissociate itself from capitalist organization of production and consumption*" (*Mol and Janicke, 2009, Ch. 2, p. 24*). Rather, EM theory follows up on *Giddens' (1990)* notion of '*reflexive modernity*' referring to the viability of restructuring the institutions of modernity to overcome the environmental crisis (*Mol, 1995*). In this sense, "*reflexivity refers to capacity of modern industrialized societies to reshape the social practices and material relations with nature in the light of new incoming information about these practices*" (*Giddens, 1990 cited in Mol, 1995*). In other words, EM is based on the premise that "*the dominant institutions can learn and that their learning can produce meaningful change* (*Hajer, 1996, p. 251*). The idea being in relation with environmental protection that ecological knowledges can be successfully integrated in the dominant institutions of modernity in an effort to redirect society towards a more environmentally friendly future. In accordance with the above, *Mol (1995)* beautifully summarizes it as follows (*see Mol, 1995 for an extensive theatrical overview of EM's origins*):

"*The concept of ecological modernization stands for a major transformation in modern society, an ecological transformation of the industrialization process into a direction in which the maintenance of the sustenance base can be guaranteed. Ecological modernization indicates the possibility of overcoming the environmental crisis while making use of the institutions of modernity and without leaving the path of modernization. The project aims to 'modernize modernity' by repairing for a structural design fault of modernity: the institutionalized destruction of nature (Mol, 1995, p. 37)*".

2.4 Core themes of EM
Over time, the theory of EM has been advanced and adapted by a wide variety of scholars to provide a completer and more coherent picture on how to properly embed the ecology in the institutions of modernity. Multiple scholars have attempted to summarize the EM literature and categorize the core themes of EM with varying results (*see Glynn et al., 2017 for an extensive literary review*). This diversification of interpretations can – at least partially – be attributed to the previously discussed duality of the theory itself and the stance of the respective author regarding the use of EM. Nonetheless, resulting from a limited literary review (*see appendix A for included authors*), there are at least *four* clear and recurrent themes that can be identified; 1) a reliance on economic practices, 2) a technological orientation, 3) the requiring of the restructuring of government-business relationships, 4) attribution of a new role to social movements.

2.4.1 Focus on economic practices
Following the notion of reflexive modernity, EM aims to address the environmental problems by the re-embedding of the ecology in the institutions of modernity by engaging with and reshaping contemporary economic practices (*Berger et al., 2001; Mol, 1995*). EM theory justifies this economic focus by explaining that economic practices are firmly rooted and strongly related to modern and state institutions and can therefore function as an appropriate vessel for environmental reform (*Berger et al., 2001*). By institutionalizing the ecology in the social practices of production and consumption, economic practices – and as a consequence society – can be redirected towards a more ecological sound future (*Mol, 1995*). Hence, EM

promises societal change in which economic growth and environmental protection are simultaneously possible within the current political-economic paradigm (*Curran, 2015*). By fundamentally rethinking the relationship between the economy and the environment, business and environmental interest can be aligned. Instead of positioning environmental protection as irreconcilable with economic growth, it advocates that these can be compatible or even mutually beneficial (*Mol, 1995*). In other words, EM proposes a paradigm of co-benefits or positive-sum game between the natural environment and the economy, the main idea being that a healthy environment is a requirement for sustainable economic gains (*Howes et al., 2010*). Moreover, EM states that it can achieve all of the above while also minimizing costs, provide new business opportunities, and do so in a manner that minimally disrupts existing societal and economic practices (*Curran, 2015*). The main overarching strategy by which EM promises to achieve this win-win scenario is through the decoupling of environmental degradation from economic growth by predominantly relying on technological innovations to ameliorate the negative environmental consequences of industries (*Toke, 2011ii*). In more practical terms, EM aims to decouple for example "*energy consumption and material throughput from economic growth through the use of energy efficient technology*" (*Matlock and Lipsman, 2019; p. 4*).

2.4.2 Reliance on technological innovation

Within EM theory science and technology are presented as being both the cause and the solution for the environmental crisis (*Howes et al., 2010*). In short, EM envisions an economic system that is made green and productive through technology (*Curran, 2015*). By stimulating the incorporation of 'green' technological innovations as early on in the production processes, EM aims to make the industry more productive and simultaneously prevent or even repair for environmental damages (*Toke, 2011i; Howes et al., 2010*). The idea being that ecologically oriented technological innovations become more economically attractive while simultaneously protecting the environment (*Hajer, 1995*). Further, to achieve environmental benefits, EM contemplates that by the instituting of environmentally sound technologies, economic development can be disconnected from the environmental degradation traditionally associated with production (*Mol, 1995*). Through the adoption of more efficient technologies and the smarter monitoring of production, EM beliefs that the pollution load on the environment can be sufficiently reduced (*Curran, 2015*). In this sense, in contrast to for example the radical environmentalists, EM demands not less but more technological development (*Curran, 2015*).

2.4.3 Political modernization

Another aspect of EM is political modernization. This term was added to the EM literature by *Jänicke (1993)* as a response to 'state-failure'. That is, the inability of governments of modern industrialized nations to successfully react to and resolve the environmental crisis (*Jänicke, 1993*). In order to allow for the synergies between economic and technological developments required for EM to work, a modernization of politics in terms of reshaping the government-business relationships is necessary (*Buttel, 2003*). In short, with regards to environmental policy, governments need to change its role from a traditional command-and-control manner towards a more facilitative one (*Mol and Jänicke, 2009*). By marginally shifting the focus of the government EM aims to facilitate the building of new coalitions that will make environmental protection economically and politically feasible (*Fisher and Freudenberg, 2001*). Instead of hierarchical policy instruments, governments will more extensively allow for self-regulation,

collaborative and consensus-oriented decision-making, and increasingly rely on market mechanisms to attain environmental objectives (*Berget et al., 2001*). In practice, this can for example translate to voluntarily negotiated (emission) agreements between the regulator and the regulated and managed capitalism through emissions trading (*Szarka, 2012*). However, depending on the context in terms of country and environmental topic, the extent to which political modernization has occurred varies significantly. In general, more extensive pollical modernization is seen in countries that maintain a more collaborative relationship with business as for example the Netherlands, Germany, and Denmark (*Curran, 2015*). Finally, it also has to be noted that political modernization can go as far as that the outcome can no longer be considered to be related to EM (*Howes et al., 2010*).

2.4.4. New role for social movements
Connected to the previous theme (*political modernization*), EM also attributes a new role to social stakeholders such as environmental groups and NGOs (*Howes et al., 2010*). In an effort to attain better social feedback mechanisms to provide better information to environmental decision-makers, EM based policy strategies aim to include outsiders or opposition into the debate (*Toke, 2011ii*). In short, by granting more power to social actors in both private and public decision-making this more inclusionary character should enable policy-makers to be better informed about and more responsive to community concerns (*Mol, 2000; Hajer, 1995*). Hence, through instituting a seemingly inclusionary and consensus-oriented platform for environmental decision-making, EM tries to include environmental concerns that would normally fall outside of the scope of traditional environmental policy-making. *Toke (2011ii)* mentions open discussion and transparent information of technologies, grassroot design efforts, and financial support schemes directed at engaging a wide array of societal actors in the commercial development of technologies as potential strategies. All in all, this understanding has been especially successful in bringing (large) radical environmental groups to the table (*Hajer, 1995*). Yet, on the other hand this approach has also been criticized for depriving these radical groups of meaningful critique due to this exact inclusionary character (*Howes et al., 2010; Dryzek et al., 2002*).

Altogether, these themes have made EM extremely appealing to policy-makers and has alleviated the concept to being one of the dominant perspectives for environmental reform (*Mol et al., 2013*). *Dryzek (2005)* accounts this wide-spread appeal to the reassuring nature of EM. Through asserting that science and technology, the current capitalist liberal economy, and the existing social and governmental institutions are capable of resolving the environmental crisis within the boundaries of mainstream actors and vested interests, the reassuring characteristics and widespread appeal of EM to the establishment becomes rather obvious (*Giddens, 2009*). All in all, EM has become one of – if not the most – influential perspective for environmental policy-making in western industrialized nations (*Mol et al., 2013*). Some EM scholars have even gone as far as stating that is the strongest, 'sole' alternative, without peer, for ecologically sound growth (*Jänicke, 2008; Mol et al., 2013*).

2.5 Varying interpretations (weak vs. strong)
Yet, before the four core themes can be discussed in relation to policy-making, it is important to note that these themes can and have been interpreted differently in theory and practice. Interpretations range from a 'weak' narrower techno-corporatist interpretation of EM, which predominantly focusses on the use of market mechanisms to a broader and more social

'strong' or 'reflexive' version of EM (*Yliskylä-Peuralahti, 2017; Christoff, 1996*). Whereas the weak form primarily focusses on techno-economic and expert-oriented solutions such as for example pollution control and resource efficiencies to resolve the environmental crisis, the strong form also emphasizes the need for collaborative decision-making and the restructuring of social, political and economic institutions (Howes et al., 2010; Glynn et al., 2017). In general, scholars refer to EM strategies as being 'weak' when its interpretation stays close to its core themes while stronger versions usually have expanded and elaborated on these themes to also encompass broader social or societal issues (*e.g., Glynn et al., 2017; Curran, 2015; Howes et al., 2010; Christoff, 1996; for illustrative purposes see appendix B*). Nevertheless, albeit being different in extent, both still uphold the same fundamental role for the above-described core themes. Further, even though this range proposes an apparent duality, it is not meant to be understood as two mutually excluding binary options as most variants of EM can be positioned between these two extremes and can be found to usually mix-and-match elements of both (*Fisher and Freudenberg, 2001; Christoff 1996*). Moreover, depending on the context of EM, a 'weaker' version might be more applicable than a strong version (*Fisher and Freudenberg, 2001*). This might seem slightly counterintuitive as its terminology – weak vs. strong – evokes a 'good vs. bad' impression (*Fisher and Freudenberg, 2001; Glynn et al., 2017*). Regardless, considering the above, it is usually not possible or useful to unambiguously pinpoint what form of EM has been adopted in practice. Therefore, besides this discussion, this research will not further incorporate this analytical distinction. However, other researchers have still widely adopted the spectrum and have found that governments have displayed a general tendency to rely more on 'weaker' forms of EM as the required transformations proposed by stronger variations often lie beyond the bureaucratic capacities of the state (*Glynn et al., 2017*).

2.6 EM as a policy discourse

The concept 'discourse' has become an important but ambiguous term within contemporary social sciences as authors have given meaning to it and applied it differently (*Bacchi, 2000*). Hence, before it can be argued how an EM discourse affects the policy-making and decision-making processes for large-scale wind power developments in the Netherlands, this thesis needs to clarify its position regarding discourse as a (*policy*) concept. Within current policy analysis literature, it is commonplace that policy-making is considered to be a socially constructed process (*Leipold et al., 2019;* Feindt and Oels, 2005*; Berger et al., 2001; Bacchi, 2000*). "*This process involves not only the administrative and institutional aspect, but also the discourse, which frame and/or influence the policy outcomes*" (*Hajer, 1995 in Berger et al., 2001*). Discourses become important for policy-making at the moment where they are used as 'rationalities'; the frame of reference to what knowledge counts as a valid statement or argument in the policy-making process (*Stevenson, 2009)*. Within policy-making, discourses are predominantly expressed and perpetuated by linguistic regularities (*Hajer and Versteeg, 2005*). Hence, the main benefit of a policy-as-discourse understanding is the capacity to find how language is used to frame issues within a certain policy area. By linguistically framing problems a certain way, discourses can set limits on what can and what cannot be said. As such, understanding and analyzing the language in policies from a discourse perspective provides an opportunity for uncovering the 'meaning' of policies and the underlying '*structures*' or '*rationalities*' that eventually might result in unequal or biased policy outcomes (*Bacchi, 2000*).

This paper will remain within the boundaries of literature concerned with treating policy as a discourse and will follow *Hajer (1995)* as to conceptualizing EM specifically as a discourse for environmental policy making. Therefore, this paper will stick with *Hajer and Versteeg (2005)* who define a discourse as "*an ensemble of ideas, concepts and categories through which meaning is given to social and physical phenomena*" (*Hajer & Versteeg, 2005, p. 1*). By following *Hajer and Versteeg (2005)* this paper takes a Foucauldian approach to discourses as this provides the possibility for uncovering the knowledges that drive policy-making in a specific field (*Leipold et al., 2019*). To contrast, a non-Foucauldian approach to discourses would render a discourse simply meaning "*the ensemble of ideas and concepts that are related to the topic*" (*Huber, 2001 cited in Feindt and Oels, 2005*), thus making the concept useless for analyzing biases in environmental policies (*Feindt and Oels, 2005*). Instead, a Foucauldian understanding allows for the inclusion of power and the subsequent explaining of why in "*discourses credence is given to claims of a specific group or* body of knowledge, *while rendering other options less credible*" (*Rydin, 1999 in Berger et al., 2001*). By establishing what counts as a valid statement or argument, discourses delineate legitimate knowledge claims from illegitimate knowledge claims and hereby simultaneously empower and disempower the position of subjects (*Leipold et al., 2019; Feindt and Oels, 2005*). To put it differently, "*discourses enable and limit the range of practices and interactions in which actors can engage*" (*Feindt and Oels, 2005*). Hence, by understanding a discourse as a 'power-laden' concept, it is possible to understand the normative positions that underlie the policy-making processes (*Rydin, 1999 in Berger et al., 2001*). As such, with regards to environmental policy-making, discourses direct and constrain how decisionmakers understand and act upon environmental issues or to put it differently what problems are addressed and what policy options are considered to resolve them.

2.7 'Validity' within an ecological modernization discourse
As discussed in the previous section, discourses determine the frame of reference to what knowledge counts as a valid claim within a specific policy field (*Stevenson, 2009)*. Yet, in order to analyze whether or to what extend policy has been affected by an overarching discourse, it is necessary to first map the relevant discursive tendencies; what kind of statements, knowledges, and arguments are considered 'valid' within a specific discourse. With regards to EM, previous research into the effects of an EM discourse on policy-making found that EM policy remains predominantly within rationalities often associated with the process of modernization; e.g., the belief in the idea of progress, an extensive reliance on science and technology, and a strong focus on rationality and logic as the main method for determining the 'truth' (*Kim and Chung, 2018; Nielsen, 2014; Berger et al., 2001; Seipel, 2000*). While this tendency has been found to hold benefits in terms of the potential to facilitate constructive government-business relations, it is also "*tends to marginalize those actors who do not abide by notions of modernity and rationality and, as a result, social and cultural needs necessary to sustainability are not addressed*" (*Berger et al., 2001*). Withal, as a result of a limited literary review, several discursive tendencies of EM can be identified. Altogether, while further advancing the categorization of *Feinstein and Kirchgasler (2014)* by adding an economic category, these can be combined and classified to roughly fit four broad categories, namely business-related beliefs, a scientistic tendency, techno centrism, and universalism. These categories will be separately discussed below and are summarized in *table 1*.

2.7.1 Business orientation

Within an EM policy discourse the fundamental assumption that economic development and environmental protection are compatible remains largely unquestioned. Moreover, the two objectives are generally perceived to be mutually beneficial as EM asserts that by fundamentally re-embedding the 'ecology' in the economic decision-making environmental issues can be resolved (*Mol, 1995*). In addition, EM argues for a more facilitating government instead of the command-and-control of the 1970s resulting in an even bigger reliance on market mechanisms for environmental change (*Mol and Jänicke, 2009*). Hence, by heavily relining on economic decision-making as the main point of departure for environmental policy-making, policy actors are required to adopt the language of business for constructing valid argumentation (*Machin, 2019; Nielsen, 2014; Baker, 2007*). This has resulted in the widespread use of predominantly market policy instruments like for example emission trading, eco-efficiencies or resource management strategies to address environmental issues (*Matlock and Lipsman, 2019; Berger et al., 2001*). Also, this understanding has led to the reduction of environmental problems to the level of inefficiencies for cost-effectiveness of market actors – rather than also including the potential added value for society (*Baker, 2007*). Altogether, within the environmental policy-making process, this business orientation has resulted in multiple discursive challenges.

First, one could think of various environmental issues that are hard to express in the language of business as some issues simply cannot be reduced, valued, or quantified in a monetary sense (*Berger et al., 2001*). In particular, but not limited to, individual experience-based claims (*Fischer, 2000*), environmentally related social justice and equity concerns (*Kim and Chung, 2018; Feinstein and Kirchgasler, 2014*), and more vague non-human factors such as for example the 'eco-system' have been difficult (*Nielsen, 2014*), if not impossible to attribute economic value to. Even though EM theory claims to fundamentally include environmental factors in the decision-making process, research has shown that in practice these vaguer non-human, social or non-monetary issues can get overshadowed by an economic rationale (*Kim and Chung, 2018*). Moreover, specifically related to wind power, Breukers and Wolsink (2007i) state that "*economic considerations have dominated policy-making at the expense of spatial planning and the environment*". Economic arguments could easily and convincingly be made regarding why wind energy was beneficial. However, past research shows that it proved much more difficult to express concerns related to siting issues such as for example wind turbine shadows, noise pollution, and landscape qualities in economic terms, thus resulting in undervaluation of such issues (*Breukers and Wolsink, 2007i*).

Secondly, while the business-oriented environmental debates in an EM discourse have promoted efficient government-business and business-business relationships, other actors are more likely to be ignored (*Berger et al., 2001; Rydin, 1999*). Historically, the governments of western industrialized countries have increasingly transformed their national governments to be more managerial (*Hajer, 1995*). This transformation has allowed for more accessible environmental conversation between business and government as both now follow an economic rationale to some extent (*Berger et al., 2001)*. As a consequence, due to not having business interests per se non-economic actors as for example individual citizens and NGOs are less likely to engage in environmental discussions and have therefore to some extend been structurally excluded from the decision-making process (*Davidson and MacKendrick, 2009; Berger et al., 2001*). Moreover, governments could even actively downplay and exclude the environmental values of non-economic actors by using its administrative powers to demand the inclusion of economic factors in argumentation of environmental decision-making

processes (*Rajkobal, 2014*). Also, this joint interest in economic values of governments and business alike has resulted in a prioritization of economic incentives over other alternatives further decreasing the influence of these non-economic actors (*Yliskylä-Peuralahti, 2017*). Withal, this economic focus, has resulted in an undervaluation of non-economic actors in terms of their validity to engage in environmental debates. As such, in a more practical sense, policy-makers within an EM discourse are less likely to engage with non-economic actors as these lie outside of its economic 'scope'.

Lastly, an EM discourse does not allow for critical opposition as it promises a generally described storyline where everyone wins; i.e., the opportunity for a win-win arrangement between economic development and environmental protection (*Davidson and MacKendrick, 2009*). Challenges regarding its effectiveness in achieving environmental goals are simply rejected as the discourse is perceived to be 'common-sense' and as a consequence dissent and opposition are usually quickly smoothed over by the reiteration of the win-win economic rational (*Machin, 2019*). In other words, it is hard to disagree with a situation in which everyone theoretically wins. The adoption of this rather vague win-win idea has the potential of restricting radical criticism and rendering politics unnecessary as the market can and will deliver the best solution to the current environmental problems (*Machin, 2019; Davidson and MacKendrick, 2009; Berger et al., 2001*). Moreover, this dominant win-win storyline has become "*reified and has therefore become increasingly difficult to challenge by those who offer alternative perspectives, visions, or agendas*" (*Machin, 2019*). All in all, this belief has repeatedly been used by the government and business to justify the exclusion of adversaries of this win-win ideal in environmental decision-making processes.

2.7.2 Scientism

The EM discourse is characterized by the knowledge intensity of its environmental decision-making (*Kim and Chung, 2018*). This can be mainly attributed to its focus on a technocratic rationality as the most valid form of argumentation to substantiate claims in environmental policy-making (*Eden, 1999 in Berger et al., 2001*). "*This involves an epistemological stance – a statement about the sort of knowledge that is most relevant – that builds on the modernist argument that the natural science and engineering, quantitative methods in particular, are the best and only way of understanding sustainability challenges*" (*Feinstein and Kirchgasler, 2014*). This belief mainly originates from the fundamental understanding – typically modernist – that environmental problems can be concretely identified, demarcated, and be responded on; i.e., be managed or governed (*Bailey et al., 2011; Berger et al., 2001*). This kind of understanding contrasts for example more post-modernistic ideas as it puts fate in reflexive control of external effects instead of focusing on dealing with fundamental uncertainty (*Mol, 1995*).

Further, the favoring of scientistic argumentations resulted in the depiction of social issues as mostly secondary or less relevant (*Feinstein and Kirchgasler, 2014*). When following the dominant trend, valid arguments in an EM discourse for environmental policy-making should be based on scientific, specialized and technical expert knowledge while others – so-called non-experts – are portrayed and perceived as non-rational and are thus unable to sufficiently evaluate and appreciate the contribution of 'experts' to environmental policy (*Berger et al., 2001*). Especially more qualitative knowledges – as for example social, local, and community knowledges – are constantly neglected (*Kim and Chung, 2018*). Similarly, *Nielsen (2014)* has criticized EM for its over-reliance on experts and technology as this "*excludes locally based ecological knowledge and inhibits widespread understanding and support for*

environmental policies". Further, *Wilson and Millington (2013)* also show skepticism towards EM as it usually frames science and engineering as the only feasible solution to environmental problems. *Eden (1999)* even takes it one step further by concluding that the EM discourse is not only used to sustain the exclusionary debate, but that some actors favoring EM might even actively fight the inclusion of actors that base their arguments predominantly on non-scientific sources through the setting of the 'rules'. Withal, it is clear that within an EM discourse qualitative accounts of knowledge are downplayed or neglected while the scientific argument becomes the basis of legitimacy and authority for environmental decision-making. Hence, arguments based on scientific sources, especially quantitative sciences, have become the primary determinant for environmental policy making within an EM discourse.

2.7.3 Technocentric

EM theory puts a lot of belief into the role of technological innovation for addressing environmental issues. It is believed that through the adoption of new and more efficient technologies environmental problems can be resolved, or at least reduced (*Toke, 2011i*). This pivotal role attributed to technology has resulted in the discursive notion that many sustainability challenges have a techno-fix instead of requiring extensive socio-political change (*Djerf-Pierre et al., 2016; Fauset, 2010*). This tendency follows up on the previously discusses tendency of scientism as a technological fix is a logical step for addressing what are predominantly perceived as technical issues; i.e., environmental issues. As a result, in policy-making technology-oriented responses are preferred or prioritized over more social policy instruments (*Nielsen, 2014*).

To continue, in the extension of EM's discursive focus on technology, business, and science also lies a consideration of what kind of technological fixes would be best to cope with the current environmental issues. By adopting economic and scientific narratives in the discussions for environmental policy-making, large-scale technological interventions are often favored over smaller scale variants as these provide a better fit with the EM discourse (*Kangas, 2019*). This is mainly due to the fact that large-scale interventions do promise the most 'benefits of scale' regarding efficiencies and resource management, resulting in an appealing package for EM policy-makers (*Avila, 2018*). Yet, within an understanding in which environmental issues are predominantly framed as large-scale engineering problems that require large-scale technological solutions, there potentially remains little room for the inclusion of small-scale social and local concerns – and subsequent solutions (*Kangas, 2019*).

2.7.4 Universalism

Lastly, environmental solutions within an EM discourse are often presented in a universal manner – probably related to the previously discusses discursive tendencies, however no literature could be found to substantiate such claims (*Feinstein and Kirchgasler, 2014*). Hence, in order to successfully address environmental issues, solutions are often designed on a larger or more universal level than the actual consequences of the eventual intervention (*Kangas, 2019*). To best explain this discursive tendency, this thesis will briefly revisit the example of *Feinstein and Kirchgasler (2014)* regarding the energy sector. They found that by framing the energy supply as a national system, local concerns had been excluded. The unfair geographical spread of 'mitigative (environmental) technologies' in terms of siting and allocation in relation to the actual polluter gave rise to a range of equity and social justice concerns (*Feinstein and Kirchgasler, 2014*). In other words, by conceptualizing problems in a universal way, solution will logically follow this idea, thus excluding and neglecting concerns on less 'universal' levels.

Table 1: Discursive tendencies and policy outcomes of EM

Discursive Tendencies	Policy outcomes
Business oriented	Requiring monetary arguments while excluding non-monetary arguments
	Inclusion of predominantly business and government actors
	Rejection of opposition based on the economic win-win rational
Scientistic	Dominant focus on quantitative scientific argumentation
	Downplaying of qualitative arguments
	Exclusion of non-scientific actors
Technocentric	Focus on technological innovation
	Favoring 'large-scale' technological fixes
Universalism	Neglecting of local social issues

Source: Author (based on Feinstein and Kirchgasler, 2014).

2.8 Community acceptance

At this point, this thesis has provided a description of community acceptance (*chapter 1*) and a theoretical understanding of the implications of an EM discourse on policy-making (*this chapter*). However, thus far, how the discursive tendencies of EM and community acceptance are related with regards to the policy-making of wind power projects – which is the focus of this thesis – has not been made explicit. Therefore, the following section will discuss what factors contribute to shaping community acceptance and by doing so, the seemingly problematic '*relationship*' between an EM discourse for policy-making and community acceptance will become and made apparent.

2.8.1 'How it's made'

To address and resolve community acceptance issues, policy-makers require knowledge of the factors that contribute to shaping community acceptance. Whereas the scientific literature used to focus on spatial proximity as the main determinant for local resistance against wind power projects (*NIMBYism*), it gradually moved towards understanding community acceptance as an outcome of a large, complex and dynamic system encompassing a broad range of factors (*Leiren et al., 2020; Devine-Wright and Wiersma, 2020; Wolsink, 2018*). In accordance, *Leiren et al. (2020)*, based on an extensive literary review, identified *six* stand out categories of factors that contribute to shaping the community acceptance of wind power projects. These categories are (*see Leiren et al., 2020 for a detailed discussion of each*

category): (1) Technical characteristics of the project, (2) environmental impacts, (3) societal impacts, (4) economic impacts, (5) contextual factors, and (6) individual characteristics (see appendix C for overview). Whereas the first four categories are rather self-evident, the latter two require some explanation. In short, contextual factors refer to factors that are mainly process related and are concerned with various forms of (social) justice (*Gross, 2007*) and trust (*Huijts et al., 2007*), and individual characteristics refer to individual values and beliefs regarding the relevant landscape also referred to as *place-identity* or *'technology-place-fit'* (*Devine-Wright and Wiersma, 2020; Devine-Wright, 2009*). What is important is that the first four categories are predominantly concerned with the impacts of the project itself, while the latter two categories are oriented towards the experiences of the local community. After all, community acceptance is essentially concerned with how these project impacts are eventually perceived and valued by this local community (*Leiren et al., 2020*). This distinction is relevant for policy-makers, considering their goal is to attain the highest level of community acceptance possible – at least I assume, as policy-making should therefore not solely focus on the project impacts, but *also* on how these impacts are subsequently perceived and valued by the local community. Moreover, considering that the specifications of wind power projects in the Netherlands (e.g., size, number of turbines, power output) were mostly predetermined and not susceptible to debate, a focus on perceptions and values might have been the only viable pathway to attain adequate community acceptance (*Akerboom, 2018*).

Now that the importance of the perceptions and values of the local community for community acceptance has become clear, there is a need for knowledge regarding what policy-makers can do to modify these in practice. Correspondent to this need, scholars have identified a range of policy measures and strategies that hold the potential to modify how project impacts are perceived and valued by the local community. Yet, before some examples can be discussed, it is important to note that the exact policy measures might vary for each project and context and that this discussion is *not exhaustive*; meaning (new) effective policy measures exist and can be created at different contexts at any time (*e.g., Leiren et al., 2020; Fournis and Fortin, 2017; Wüstenhagen et al., 2007*). Nonetheless, on a more abstract level, several examples of policy-making can be discussed.

First, it is believed that the perceptions and values of the local community are significantly influenced by "*how people are involved and integrated in the siting and permitting process and how costs and benefits are distributed*" (*Leiren et al., 2020*). In other words, local communities' perceptions and values are attentive to a 'fair' or just process (*Devine-Wright and Wiersma, 2020*). Previous research has shown that people perceive a process to be '*fairer*' – thus better community acceptance – when they are invited to participate, are heard and taken seriously, and have access to accurate and understandable information (*Leiren et al., 2020; Zoellner et al., 2008*). Also, the earlier the local community is involved the better. Usually, people negatively value an invitation to participate after the plan has already been announced (*Wolsink, 2007*). Another possible factor contributing to the perceived fairness of the process is the distribution of costs and benefits (*Leiren et al., 2020*). The local community is often left with the dissatisfaction that they need to cope with the negative consequences of a wind project, while others far away get most benefits (*Wolsink, 2010*). In this sense, costs and benefits are interpreted broadly and can encompass anything from financial to environmental to distributional (of the wind turbines) 'costs and benefits'. Such issues could for example be mitigated by including and promoting shared value creation (e.g., new jobs, tax returns, green electricity) or simple financial compensation (*Leiren et al., 2020*).

Secondly, another aspect policy-makers could focus on for community acceptance is increasing *trust*. Research has shown that strengthening various forms of trust (e.g., regarding the developer, the government, or information) can benefit overall community acceptance (*Huijts et al., 2007*). Pathways to increase trust can be among others local ownership in terms of financial stake in the project or the involvement of local developers and the inclusion of measures that target "*(…) the provision of comprehensible, transparent, non-biased information, preferably from trusted intermediaries assisting local communities (…)*" (*Leiren et al., 2020*). Withal, various community acceptance issues could potentially be mitigated through an integrated approach that also incorporates softer factors such as the needs and expectations of the local community while also considering local processes and cultures (*Ibid.*).

2.8.2 Friction between concepts
After reading this chapter and comparing the discursive tendencies of EM with the section regarding community acceptance, one could argue that both topics represent seemingly contradictory storylines. On the one hand, the EM discourse provides a hard techno-corporate and scientist orientation towards the policy-making of wind power projects, while in order to successfully attain community acceptance – at least partially – a focus on much softer factors is also required. When considering that discourses demarcate policy-making in terms of what counts as a valid problem and solution within the policy-making process, one could imagine that some community acceptance factors that can be reconciled with the EM discursive tendencies might get overemphasized and overrepresented while simultaneously structurally neglecting or downplaying other non-compliant (soft) factors (*Stevenson, 2009*). In a way, community acceptance factors directed at the experience of the local community (e.g., ownership, trust, justice) might be considered factors that simply lie outside the scope of the EM discursive framework for policy-making. Or to put it differently, within an EM discursive framework, policy-makers might not even recognize the softer factors as a problem, thus not proposing policy measures to resolve them. In addition, even when contextual factors are addressed and an 'integrated and participative process' is indented, one could argue that several of the EM discursive tendencies and policy outcomes such as the exclusion/inclusion of specific groups of actors and/or the requirement for certain types of arguments (*see table 1*) hinders – or even prevents – such a process from being successful; i.e., attainment of 'the best' community acceptance possible. All in all, whatever the specific implications might be – if at all present, one could argue that the EM discourse could potentially hinder policy-makers from shedding light on parts of community acceptance, in particular the softer factors. Yet, whether, what exact implications, and to what extend this is the case remains the topic of this research.

2.9 Conceptual model
The conceptual model below (*figure 1*) illustrates a potential example of the problematic 'relationship' between an EM discourse for policy-making and (parts of) community acceptance. The model shows the 'person' thinking within a framework that is demarcated by the tendencies of the overarching EM discourse. Subsequently, this orientation results in an outlook that emphasizes the first four categories of factors while structurally neglecting the latter two.

Policy-making for large-scale wind power projects
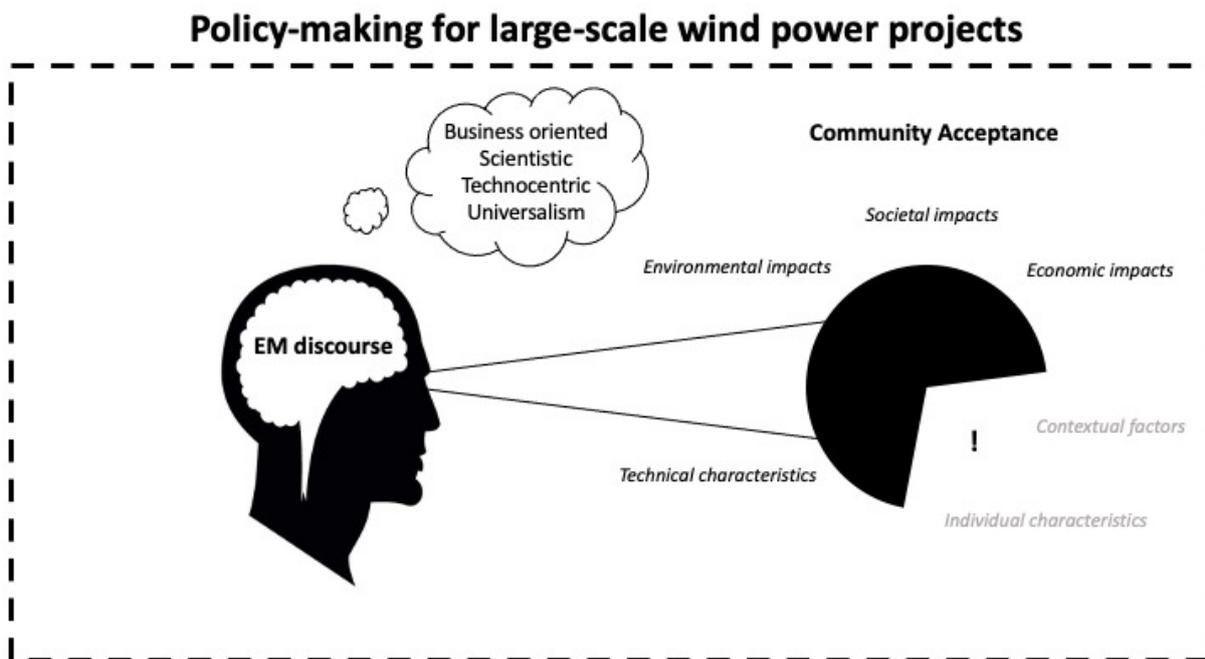
Source: Author (based on Feinstein and Kirchgasler, 2014; and Leiren et al., 2020).

Chapter 3: Methodology

3.1 Research strategy

To answer the research questions of *chapter 1*, this research opted for a qualitative single case study research strategy that combined data gathered from a documentary desk-study and semi-structured interviews. The data will subsequently be examined with a qualitative content analysis as its text interpretation method. By adopting this research strategy, it is possible to first – through a documentary desk-study – gain knowledge of (within the selected case) whether and to what extend the discursive tendencies of EM are present, the identified policy outcomes have occurred, whether, how, and based on what decisions community acceptance is included, and finally, by comparing and analyzing the findings together, especially with the semi-structured interviews, it is possible to gain insight into if and how the previous – the EM discourse and community acceptance – might be related. All in all, this should allow for an understanding of whether the policy-making resembles EM and whether this has been influential for community acceptance.

3.2 Qualitative research

A qualitative approach was preferred over a quantitative approach as the focus of this research is on interpretation – rather than quantification – of 'how' the EM discourse has affected the policy-making process of large-scale wind power projects in the Netherlands. Moreover, considering that policy-making is predominantly a linguistic affair, this approach seems more suitable as qualitative research usually builds on words and language for its source material instead of numerical data (*Denzin and Lincoln, 2018; Taylor et al., 2015*). Also, as policy-making encompasses an extensive process of complex human interactions and interpretations which cannot be easily reduced to numbers, it would generally benefit from a research approach that allows for a rich and in-depth understanding; which are both properties of qualitative techniques (*Vaismoradi et al., 2013; Clifford et al., 2010*). Lastly, a qualitative approach is suggested for uncovering implicit meanings of texts such as policy discourses and narratives (*Farchi and Salge, 2017*). However, it has to be noted that qualitative research also has a significant downside as its findings – in principle (see *Flyvbjerg, 2006*) – cannot be generalized or universally applied (*Kohlbacher, 2006*). Yet, correspondingly, it is important to note that this research does not aim to find generalizable claims or causation as this is considered extremely difficult – if not impossible – in complex long-term policy making processes. Further, instead of statistics, qualitative researchers need to focus on trustworthiness for its validity (*Elo et al., 2014; Kohlbacher, 2006*). With regards to this research, trustworthiness will be discussed separately below (*3.7*).

3.3 Case study research

Case studies are suggested as an adequate research strategy for understanding complex social phenomena within their original context (*Yin, 2003*). *Yin (1981)* describes it as follows: "*case studies seem to be the preferred strategy when "how or "why" questions are being posed, when the investigator has little control over events, and when the focus is on a contemporary phenomenon within some real-life context*" (*p.59*). Later he (*Yin*) continued to define case studies as: "*A case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident.*" (*Yin, 2003, p. 13-14*). This research decided for a case study research design as described by *Yin (2003)* as the policy-making for large-scale wind power projects –

the subject of this research – is understood as a complicated social process which cannot be properly researched outside of its original context as it involved a wide range of human interactions and values and beliefs without a clear demarcation to what influenced the policy-making, and on which (*policy-making*) the researcher did not and cannot exert any influence (*Stevenson et al., 2008; Hajer, 2004*). Also, previous research indicated that case studies are particularly well suited to provide insights into policy-making processes and its underlying values and structures, especially through the *"richness and uniqueness of policy documents"* (*Farchi and Salge, 2017, p. 145; Hennink et al., 2011*). All in all, a case study research design allows for providing an in-depth understanding of the policy-making of large-scale wind projects in terms of what decision were made, why and how these were made, with what result, and how these were eventually perceived and valued by the local community (*Kohlbacher, 2006; Yin, 2003*).

3.4 Case selection

This research selected the policy-making of Windfarm N33 (*in Dutch: Windpark N33*) as its sole case. First, to demarcate what constitutes this case – and what not, it is necessary to first provide an understanding of what the term *policy-making* substantially entails for this research (*Yin, 2003*). Usually, when people think of policy-making they automatically assume it refers to actions, decisions, and statements coming from various forms of government; i.e., public policy (*Birkland, 2019*). Yet, policy-making as a concept merely refers to the activity of making "*plans, courses of actions, or procedures that are indented to influence decisions*" (*The Open University, 2020*). Thus, it can encompass a broader range of activities from a variety of organizations. To further add to this vagueness, decision-making also forms an inherent part of policy-making as previous decisions can become de facto policies or precedents when repeated (*The Open University, 2020*). Hence, policy-making and decision-making are contingent which makes is difficult to provide a universal definition of either one (*Birkland, 2019; Hendriks et al., 2000*). Therefore, as no universal theoretical definition is available, this research will simply define policy-making in relation to the context the windfarm N33. Hence, for this research policy-making is defined as follows: *The decisions and the decision-making processes that can be directly related to Windfarm N33*.

Secondly, this research decided for using the Windfarm N33 as its only case for reason related to the characteristics of this specific project and the researcher himself. As the focus is on the ex-ante examination of policy-making, it is required to be finalized at the time the research is conducted. As stated before, serious delays plagued the eleven large-scale wind power projects in the Netherlands resulting in most of these not having finalized most policy-making procedures. The N33 however has already entered its final phase of implementation and construction as several turbines have been built or are in the process of being built, thus all decision-making and decision-making processes have been finalized and are available for examination. With regards to personal considerations, a desk-study research involving the numerous documents of multiple cases would result in an unrealistic workload as the researcher predominantly worked alone. Also, geographic proximity to the project and relevant stakeholders allowed for better accessibility to the interviewees. This research recognizes that multiple cases would generally be considered beneficial for such a research (*Yin, 2003*). However, when taking into account that the policy-making of all eleven large-scale wind power projects in the Netherlands is an affair of the *same* national government without much local variance in influence and authority (*Akerboom, 2018*), and the similarities in terms of project characteristics (e.g., rural locations, present opposition, power output), this

research finds that there is sufficient motivation to conduct the research, albeit recognizing its more explorative character and lesser explanatory potential (*Flyvbjerg, 2006*).

3.5 Data collection

To answer the research questions, this case study needs to contain a dataset which provides an in-depth understanding including among others information on the decisions and decision-making processes in terms of what decision have been made, why they were made, based on what information and arguments, following what procedures and processes, with what effect and result, and how these were eventually perceived and valued by the local community. By doing a documentary desk-study in combination with several semi-structured interview, a significant portion of the information should become available. Also, the use of multiple sources of evidence is generally recommended (*Yin, 2003*). In terms of why these two sources of evidence were chosen, what documents were included based on what rules, how these were selected, who was interviewed, and why, will be substantiated below.

3.5.1 Documentary desk-study

Basically, a documentary desk-study is concerned with the analysis of (written) documents (*Tight, 2019*). This research decided for a documentary desk-study as the main source of evidence for a number of reasons. First and above all, due to the global COVID-19 pandemic, opting for extensive contact-intensive research methods such as focus groups or face-to-face meetings was deemed not possible. Secondly, documentation on the topic is plentiful due to the Dutch national government – the authority for the relevant policy-making – being legally required to hold extensive and publicly available records of all decisions and passed decision-making processes (*see Wet Openbaarheid van Bestuur*). Also, as the examples of chapter 1 have illustrated, resistance related debates regarding Windfarm N33 – and social acceptance issues in general – have been ongoing and public resulting in extensive news coverage and partisan information sources such as for example websites.

In accordance with the above this research formulated and included two categories of documents; 1*) formal documentation, and 2) informal documentation*. Formal documents are documents that were *made* by or *ordered by* the 'government', *and* support documents that were *included, directly related,* or *mentioned* in the previously mentioned policies (e.g., policies, support documents, reports, minuted discussions and meetings). And *Informal documents* are documents that are *not* commissioned or ordered by the government. These can include newspaper articles and (partisan) websites. Whereas the formal documents predominantly provide insights into the EM discursive tendencies and community acceptance, the latter sheds light on possible policy-outcomes and how the policy-making was perceived and valued by the local community.

Before gathering the documentation, this research set some rules regarding what documents were to be included (*Elo and Kyngäs, 2008)*. Formal documentation used the 'Energieakkoord' as its point of departure. It is seen as the 'starting point' for serious wind power policy-making in the Netherlands and it functioned as the legal foundation for all subsequent policy-making (*Akerboom, 2018*). Policy documents follow a clear and transparent trajectory for its procedures and substance as each new policy builds upon and relies on previous policies (*de facto*). Hence, by 'snowballing' from the general – the Energieakkoord – to the specific case of the N33, it is possible to identify a clear policy pathway and gather (*almost*) all related *formal* documentation (*Elo et al., 2014*). This resulted in the inclusion of a

total of *12 distinct* formal documents or reports (attachments not included in this number; *see appendix D*).

With regards to informal policy, there is in an infinite – from the researcher's perspective at least – number of documents available. Therefore, several specific rules were applied. First, the amount of data from partisan groups should be roughly similar for all sides. Second, sources need be concerned with and directly mention the N33 wind park project. And finally, sources need to refer to the policy-making process directly or indirectly. *Directly* means that the source literally refers to policy-making process (procedures, decision-making, participation etc.) and *indirectly* is used to describe sources that not address the decision-making process directly, but discuss the outcome of a decision (perception and evaluation). News articles were chosen by doing a search in the *Nexis Uni* database on 'Windpark N33'; this research found 722 available articles. To further decrease this number into a comprehensible database, this research opted for the use of two newspapers; Dagblad van het Noorden (DvhN; local) and NRC Handelsblad (NRC; national). Also, it limited its search by only including articles published after 03-2012 as this was the publication year of the Structural Vision Infrastructure and Space which included the differentiation and designation of large-scale scale wind power projects for the first time. Withal this resulted in *481* articles. These would subsequently be sorted to fit the rules as set out previously in this section resulting in a total of *178* articles. Further, with regards to websites, the website of the largest opposition organization and the project's' own website were included; tegenwindn33.nl and windparkn33.nl respectively. After sorting and organizing all (informal) data, roughly *200* pieces of text remained for the analysis – depending on how one might count the lose information on websites. In the end, within the framework of rules presented above, an extensive list of documents was collected (*see appendix D for the full list*).

3.5.2 Semi-structured interviews

Whereas documentation provides a great deal of information about all of the concepts separately, it is expected to more or less presents the information without a clear link or overlap. In order to make the connection, semi-structured interviews were conducted after finalizing the documentary content analysis as this provided the foundation for the interview guide. Interviewees included an informed local journalist and a knowledgeable adversary. These interviews provide an in-depth understanding of the phenomena and allow for the targeted asking of questions (*Clifford et al., 2010*). Moreover, including interviews as a second source of evidence is recommend for advancing the findings of a (directed) content analysis and case studies in general (*Kyngäs et al., 2020; Assaroudi et al., 2018; Yin, 2003*). This research opted for semi-structured interviews – over unstructured or structured – as it provides a possibility to include several predetermined and directed theory related questions while still upholding the open-endedness and informal setting to explain unclarities, ask follow-up questions, or expand on specific topics (*Longhurst, 2010*). The created interview guide can be found in *appendix E*. Sadly, due to the Covid-19 pandemic all interviews were conducted in a digital format rather than face-to-face meetings. This setting does not allow for the recording of non-verbal communications. Further, all meetings were recorded and transcribed and a consent form was used to get approval from the interviewee for the use of the data (*see appendix F*).

3.6 Data analysis (text interpretation method)

To analyze all written materials a (directed) qualitative content analysis with an un-structured analysis matrix based on the methodology of *Elo and Kyngäs (2008)* was used. In short, a *"qualitative content analysis is a research approach for the description and interpretation of textual data using the systematic process of coding." (Assaroudi et al., 2018).* Hence, it encompasses more than simply counting words (*Weber, 1990*). The main benefit of adopting such a text interpretation method is that it offers a transparent and coherent analysis strategy for connecting abstract categories to textual data (*Assaroudi et al., 2018*). In contrast to regular coding or discourse analyses, it provides a more structured process which is considered to increases overall trustworthiness (*Elo et al., 2014*). In addition, recent research has recommended qualitative content analysis as a suitable tool for the identification of active discourses in policy texts (*Hall and Steiner, 2020*). Instead of an inductive version, this research opted for a directed (*deductive*) variant as the initial coding scheme is based on prior theoretical knowledge (*Armat et al., 2018; Elo and Kyngäs, 2008*). The main benefit of a directed approach is that it can be used to support or expand existing theories or ideas – which in this research relates to exploring the potential relationship between the discursive EM tendencies and poor community acceptance (*Kyngäs et al., 2020*). Further, an unstructured analysis matrix (*see for example table 3)* was used as the goal of the research is broader than hypothesis testing and new coding categories can emerge during the analysis (*Elo and Kyngäs, 2008*). The use of an unstructured analysis matrix also provides an opportunity to do a second inductive round of coding within each category allowing for a more practical understanding of the phenomena at study within its context (*see figure 2 for an example of the analysis process; Kyngäs et al., 2020*). The analysis will follow the guidelines and phases (preparation, organizing, reporting) as initially set out by *Elo and Kyngäs (2008)*. Further, more recent suggestions from *Assaroudi et al. (2018)* will be included as well as practical tips from a follow-up handbook from *Kyngäs et al. (2020)*; see *table 2* for a step-by-step guide of the analysis. To end, all coding was done with Atlas.ti software and all relevant coding matrices, schemes, and codes are added to *appendix G*.

Table 2: **A step-by-step guide for directed qualitative content analysis**

Suggested steps by *Assaroudi et al. (2018)*	Steps of this research
Preparation phase	*Preparation phase*
1. Acquiring the necessary general skills	Read a variety of scientific papers related to this specific method. These included among others; *Elo and Kyngäs (2008); Elo et al. (2014); Assaroudi et al. (2018); Kyngäs et al., (2020); Hall and Steiner (2020); Armat et al. (2018); Farchi and Salge (2017).*
2. Selecting the appropriate sampling strategy	See sections regarding case selection and data collection. In addition, for each document the sections that addressed decisions or decision-making processes were highlighted and copied in a new file for later coding.
3. Deciding on the analysis of manifest and/or latent content	This research focusses only on manifest content as texts do not provide latent content and the interviews were conducted digitally.

4. Developing an interview guide	This was done after finalizing the document analysis as this provides the specific information for setting up the interview guide.
5. Conducting and transcribing interviews	Idem.
6. Specifying the unit of analysis	The unit of analysis wat set on *one* or at most a *few* sentences depending on the text. Two reasons underly this decision. First, it has the potential to cover both a single value statement and a full argument. Second, it was suggested by *Kyngäs et al. (2020)* as the best unit for inexperienced researchers.
7. Being immersed in data	Double read through of all included document material (*Elo and Kyngäs, 2008*).
Organization phase	*Organization phase*
8. Developing a formative categorization matrix	Main categories were derived from the theory discusses in chapter 2.
9. Theoretically defining the main categories and subcategories	Provided each main category with a preliminary definition to limit the influence (bias) of the researcher. Yet, these definitions would be susceptible to change whenever they were deemed no longer applicable for the dataset.
10. Determining coding rules for main categories	Following each definition, a set of properties (i.e., demarcations of what is and what is not included within each category) was attributed to each category.
11. Pre-testing the categorization matrix	Coding schemes are tested on a portion of the documentary dataset (roughly 10%). Subsequently, adjustments to definitions and coding rules were made (*Elo et al., 2014*).
12. Choosing and specifying the anchor samples for each main category	For each category an anchor example was chosen to better illustrate its substance. See *Appendix G* for all anchor examples.
13. Performing the main data analysis	Analysis matrices were filled in and reviewed. Also, the dataset was examined for clear overlaps or substantial proximity between discursive tendencies of EM and community acceptance.
14. Inductive abstraction of main categories from preliminary codes	Each category of the filled-in EM analysis matrix was separately coded to gain the practical knowledge of EM in the context of this research. This was deemed not necessary for community acceptance as concrete knowledge followed from the initial coding. Also, the theoretical understanding that led to the initial matrix was much more practical, thus rendering this extra step not worth doing.
15. Establishment of links between generic categories and main categories	The research constantly compared different codes and labels to see whether overlap or connection between EM tendencies and community acceptance could be identified.

	These would than later be substantially examined and elaborated on in the findings.
Reporting phase	*Reporting phase*
16. Reporting all steps of directed content analysis and findings	The data analysis process was described in detail in *this chapter*. Findings, connections, and further considerations will be extensively discussed in the next chapter. Also, a separate discussion on trustworthiness is included at the end of this chapter.

Source: *Assaroudi et al. (2018)*

Table 3: Example of an unstructured analysis matrix

How are the discursive tendencies of EM represented in the policy-making of Windpark N33?	**Business orientation**	**Scientistic**	**Technocentric**	**Universalism**
	Text example 1 *Text example 2* *Etc.*			

Source: based on *Kyngäs et al., (2020)*

Figure 2: Example of the directed content analysis process in health science
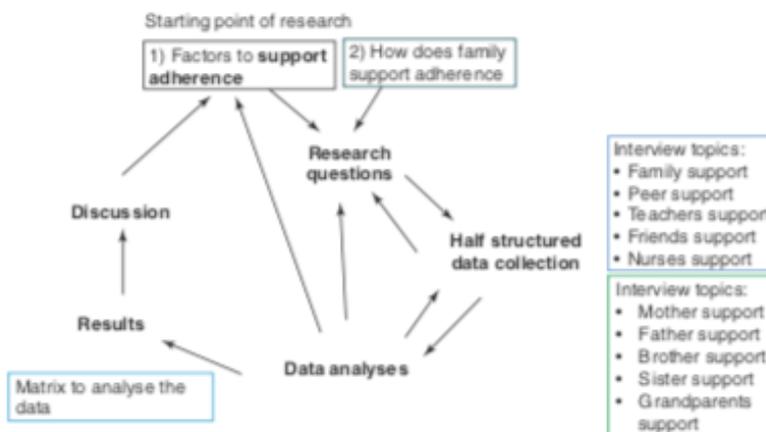
Source: *Kyngäs et al. (2020)*

3.7 Trustworthiness

In general, the term *trustworthiness (Lincoln and Guba, 1985; cited in Elo et al., 2014)* is used to evaluate qualitative research. In short, it expresses whether qualitative findings are "*worth paying attention to*" (*Elo et al., 2014).* To enhance the trustworthiness of this research, several measures and control mechanisms – based on suggestions by *Elo et al. (2014)* – were included. First, as previously stated, instead of opting for a rule-free analysis method, this research decided for a structured and theory-based text interpretation method. Second, the documentary dataset was compared to the stories of both interviewees and checked for significant missing documents, events, or group. Third, the initial (deductive) coding schemes and definitions were subjected to a comparison with a peer student to determine the intercoder reliability (*ICR*). This research scored *0,679* (Krippendorf's α; *Krippendorf, 2004*).

Finally, in an effort to enhance the overall trustworthiness, the researcher discussed all points of the 'trustworthiness checklist' (*Elo et al., 2014*) with the supervisor after finalizing the research. The ICR results and the completed checklist with comments are included in *appendix H*.

3.8 Research philosophy

The methodology in this chapter was developed based on and remaining within the boundaries of the researcher's research philosophy. Therefore, to be thorough, it is important to briefly discuss the research philosophy underlying this thesis in terms of *ontology* and *epistemology*. The researcher conforms to a naturalistic – not positivist – research philosophy (*Kyngäs et al., 2020*). With regards to ontology, this implies a *constructivist* stance on the way reality is considered. That is, reality is assumed to be the product of social processes instead of being 'fixed' and directly measurable (*objectivism*) (Ibid.). Therefore, to produce knowledge within this research paradigm (*epistemology*), the researcher needs to interpret and understand – not discover – the social 'reality' through the meaning, experiences, and interpretations of people (*interpretivism*) (Al-Saadi, 2014). This philosophical stance corresponds with the methodology used in this thesis as it decided for a case study research design in combination with a qualitative text interpretation method (*Kohlbacher, 2006*).

3.9 Ethical considerations

To end this chapter, this research recognizes the significance of ethical considerations. In general, this research aimed to uphold ethical standards with regards to fair and honest acquisition and processing of data (*Clifford et al., 2010*). Also, this research considers the researcher to be of relatively *neutral positionality* as the researcher claims to not have any vested interests or stake regarding the results and is not a part of the context that is being researched (*Lian, 2019*). Further, with regards to qualitative research and interviews in particular, researchers should pay special attention to *anonymity* and *confidentiality* (*Longhurst, 2010*). After all, research can have consequences for its context (*Clifford et al., 2010*). Hence, several measures were taken to guarantee the anonymity of interviewees and confidentially of the thesis. First, all interviewees were required to sign a consent form that explained that the interview would be recorded and transcribed, and why and how the data would be used. Second, all interviewees would be included anonymously into the research. Whenever a quote or description would come too close to the identify being discovered, it would be slightly altered to guarantee the anonymity. Third, all interviewees were offered a transcribed version of the interview and were allowed to withdraw their data at any point during the research. And finally, the thesis is published in a database which is only accessible to students and staff from the University of Groningen and will under no circumstances be provided to third parties, thus further limiting its exposure.

Chapter 4: Detailed description of the relevant policy-making

This chapter will provide an extensive description of the policy-making of the Windfarm N33 while also paying attention to considerations that are found – based on the analysis – to be especially relevant for this thesis; i.e., related to community acceptance and EM.

4.1 Relevant national policy framework

Up to 2012, the Dutch national government committed itself to several agreements regarding sustainable energy generation (*see for example: EU directive 2009/28/EC*). Simultaneously and corresponding to these agreements, the Dutch national government also agreed to realize 16% sustainable energy generation by the year 2023. However, up until this moment, many of these agreements were not concretized or enforced (*Akerboom, 2018*). This changed with the instituting of the *'Energy Agreement' (2013)* as it legally committed the Dutch government to creating a practical legal framework for the implementation of renewable energy sources. In short, the *Energy Agreement* combined and reconfirmed many existing sustainable energy targets and provided concrete arrangements and deadlines regarding the attainment of these targets. Among these, relevant for this thesis, was the *'rebirth'* of the previously agreed upon target for onshore wind energy; that is, 6000 MW by 2020.

This target was agreed upon and laid down in the *'National Plan for Wind Energy' (NPWE; 2008)* and was substantiated with a *position paper*; the *'Spatial Perspective for Onshore Wind' (SPOW; 2010)*. In the *SPOW,* the Ministry of Housing, Spatial Planning, and the Environment (*HSPE*) provided an elaboration of the *NPWE* and presented findings and advice (in Dutch: *'ambtelijk advies'*) based on an exploratory study of the *Ministry of HSPE* into the options for the (long-term) development of wind turbines in the Netherlands directed at the national government, provinces, and the municipalities (*SPOW, p. 6*). Whereas the *National Plan for Wind Energy* merely states that the target has been agreed-upon by various parties, the *SPOW* provides a rough plan to attain this target and some answers to the question whether the Netherlands has sufficient 'room' for 6000MW worth of wind turbines. In short, the position paper identified multiple (*19*) *wind concentration areas* (suitable locations for the bundling of large wind turbines into large-scale wind power projects; i.e., 20+ wind turbines or 100MW<) based on overall wind potential, presence of high-end energy networks, existing (or plans for) wind turbines, and the potential to create local employment (*SPOW, p. 17*). Further, it was concluded that there appears to be sufficient *'theoretical'* (*emphasis on original; SPOW, p. 20*) space for 6000MW worth of wind turbines within these wind concentration areas. However, the *SPOW* also advised caution with regards to the practicality (*in Dutch: uitvoerbaarheid*) of this target and stressed the importance of a good support base (*in Dutch: draagvlak*) for wind power projects (*SPOW, p. 20*). Therefore, to attain this target, the paper continued to advice the government to focus on livability; aim for a fair and just distribution of burdens and benefits; the creation of local employment; the provision of transparent and clear policy programs and information; include extensive collaboration between governments, project initiators, landowners, and the inhabitants; allow for and promote integral area development with special attention to the regional and local wishes and expectations; and focus on the empowerment of all involved stakeholders (*SPOW, p. 20*). For the wind concentration area encompassing the current windfarm N33, contributing to creating employment in a socio-economically declining region was mentioned as a substantial opportunity (*SPOW, p. 34*).

Two years later, the target of 6000MW for onshore wind power would be reiterated in the *'Structural Vision on Infrastructure and Space' (2012)*. In this document the national

government would express and clarify its responsibilities with regards to the development of sustainable energy sources. That is, the national government would commit to making sure sufficient geographical space is made available for the development of sustainable energy sources – as these are generally considered to require a relatively larger surface area than do traditional energy sources (*SVIS, p. 6*). With regards to wind power, this translated to the allocation of several wind potential areas based on scenic (*landscape*) and environmental factors as well as average wind speeds (*SVIS, p. 35*). These areas were considered to be appropriate for the development of large-scale wind power projects (100MW or more) and roughly overlapped with the wind concentration areas from the *SPOW*. The (national) government would limit itself to appointing wind potential areas solely for large-scale wind power projects as these were considered to be of *national importance* and lower-level governments were deemed to have insufficient capacity to cope with the substantial impacts on the surrounding areas and large scope of such projects (*SVIS, p. 35*). By classifying large-scale wind power projects as being 'of national importance', these projects would now fall within the jurisdiction of the national government and would be susceptible to the '*Rijkscoordinatieregeling' (RCR);* meaning the decision-making authority for these projects would fall within the competence of the national government. Further elaboration of the onshore wind power plans, the exact locations for large-scale wind power projects within these areas, and the geographical distribution of the 6000MW target over the country would be decided upon in collaboration with the provinces in a planned follow-up document; the *'Structural Vision Onshore Wind Energy' (SVOWE, 2014*).

The *SVOWE* is an elaboration of the SVIS and is concerned with the spatial plan of the national government to guarantee the attainment of the pre-determined 6000MW target. It emphasized the importance of realizing the '*technical potential*' for wind power in the Netherlands; the amount (*6000MW*) of wind power that can be *cost-effectively* developed until 2020 – not to be confused with the '*realizable potential'* which is generally considered to be lower due to acceptance and financial issues, but was not quantified in the report (*ECN, 2012*). Otherwise, the national government would be required to invest in more costly sustainable energy sources for attaining the 14% target of 2020 (*SVOWE, p. 7*). Hence, to safekeep the target, the national government selected and demarcated specific locations for large-scale wind power projects within the wind potential areas of the *SVIS* while also '*collaborating'* with the provinces in terms of taking pre-existing provincial spatial policies and plans into account. In most instances this meant a direct continuation of these pre-existing (provincial) spatial plans (*see section 4.2*). Also, in the built-up to the *SVOWE*, the '*Interprovinciaal Overleg*' (IPO)[1] was required to propose a distribution of the 6000MW target over the 12 provinces and appoint areas for the development of wind turbines corresponding to the respective provincial shares (*in MW*). Subsequently, by taking the previous into account, the national government selected *11* sites that were deemed appropriate for the development of large-scale wind power projects – among which was the area of Windfarm N33. Three main arguments were repeated within the SVOWE regarding this selection. First, at these sites wind is relatively often and strong. Second, the area contains large-scale infrastructure such as for example highways, waterways, or industry. These areas were considered – implicitly – to have a relatively low population density thus would result in less hinderance (to people). And third, the size of modern (large) wind turbines should be in harmony with the scale of the landscape, thus minimizing its landscape impacts *(SVOWE, p.*

---

[1] An Umbrella organization of the 12 Dutch provinces which serves the joint interests of the provinces, especially in matters officially concerning the national government or the European Union (*see IPO.nl*).

14). Withal, relevant for the N33, the province of Groningen would have to account for a share of 855,5MW for onshore wind energy by the year 2020 and decided for concentrating the turbines in three large-scale wind power projects at the Eemshaven, Delfzijl, and along the *N33* highway *(SVOWE, p. 16, 19)*.

Further, with regards to the development and implementation, the *SVOWE* sat out rough guidelines and recommendations for project design and decision-making processes. To account for the severe impacts large-scale wind power projects can have on the surrounding landscape and livability, the Ministry of Infrastructure and the Environment (*IE*) – the 'governmental' successor of the Ministry of HSPE – recommended that the spatial design is made in collaboration between local governments and developers while considering three principles; landscape-fit (connect aesthetically to other infrastructure), identifiable order in terms of placement and alignment, and the distance between wind power projects (as each windfarm needs to be visually separated; *SVOWE, p. 17-18*). Also, regarding the decision-making process, the *SVOWE* stressed the importance of a good support base. It recommends developers – as 'they' are considered to be responsible for creating a support base (and thus partially acceptance) – to include proper consultation procedures by means of communication and participation, a fair distribution of burdens and benefits, integral area development (both financial and societal), and financial participation (*SVOWE, p. 28*). The latter should not be confused with '*financial compensation*' as research by the *Netherlands Bureau for Economic Policy Analysis* (*in Dutch: CPB*) did not find any considerable negative economic effects on tourism and recreation, real-estate values, and employment – *at a national scale* – that would require compensation (*CPB, 2013*).

In addition, the SVOWE was – voluntarily (not mandatory by law) – accompanied with a general *Environmental Impact Assessment* (*EIA*; *EIA-SVOWE, 2013*). The EIA is a *technical* study of the – broadly speaking – environmental impacts of wind power projects. It aims to evaluate the effects a project can have on nature (flora and fauna); safety; landscape, cultural heritage, and archeology; hinderance (e.g., noise and shadows); and other spatial elements and interests (e.g., existing infrastructure and agriculture). Also, by means of this assessment the EIA provides an estimate of the potential energy production (in MWs) for each project. This data will subsequently be used as a basis for implementation decisions further down the policy-making process; i.e., project specific decisions like the type and number of turbines. All in all, the EIA concluded that the realization of 100MW worth of turbines should be possible at the designated N33 location without too much negative consequences to the included criteria. However, it would require paying special attention to the design of the project as the report expects multiple negative effects related to hinderance due to proximity to housing. Moreover, particularly interesting for the N33, the EIA also provides advice regarding two criteria which are *not* included in the 'official' EIA evaluation. *First*, the EIA warns about the presence of a '*shared identity*' in the region which is potentially threatened by the realization of the windfarm. Even when the wind turbines are placed in a coherent order and with proper distance between each wind farm, the regional identity is expected to be affected. Hence, it argues for a regional design effort in which it is important to collaborate with and bring together local stakeholders as "*this issue cannot be solved by only using quantitative criteria*" (*EIA-SVOWE, p. 147*). And *second*, considering the proximity of the windfarm to housing and the potential negative effects in terms of noise, shadow, safety, and landscape (i.e., horizon pollution), the EIA advices to also include an evaluation criterion specifically related to health risks in subsequent project specific policy-making (*EIA-SVOWE, p. 148*). However, at this point, health risks were only implicitly included in the EIA as these were considered to be part of the

hinderance criterion. Insufficient knowledge was considered to be available regarding the "*effect relationship*" (*EIA-SVOWE, p. 49*) between windfarms and health risks for explicit inclusion in the report.

4.2 Local policy-making of the N33
The local policy-making for the N33 can be traced back to three sequential (2000, 2006, 2009) spatial plans of the province of Groningen; i.e., '*Provincial omgevinsplannen' (POP)*. In short, the *POP* is a legally binding spatial plan of a provincial government that integrates and clarifies existing policy programs and plans concerned with the physical environment (*POP, 2009*). Within the latest of these POPs (*2009*) the province of Groningen voluntarily committed itself to facilitating the production of 750MW of sustainable energy in the following 10 years. Wind power – particularly at a large-scale – was mentioned as one of the main instruments to attain this target. Further, with regards to the siting of large-scale wind power projects, the province of Groningen determined that wind turbines should be considered industrial infrastructure elements and therefore need to be placed within industrial areas. Hence, as the area west of the N33 highway was previously appointed as an 'industrial zone', the province reserved this site for the development of a large-scale wind power project. By concentrating the wind turbines in large-scale developments within industrial areas, the province aimed to prevent scattered small-scale developments distributed all over the province which was generally considered – by the provincial government – to be undesirable for the inhabitants of the province of Groningen. Further, regarding the development of large-scale wind power projects, the POPs prescribed multiple points of attention related to possible effects on the environment (especially on the Waddensea and birds) and the interests of the agriculture sector, nature, and landscape (*POP, 2009; p. 66*). In the end, it was predominantly these plans that would later provide the foundation for the siting decisions in the *SVOWE* for Groningen.

Later, in the year 2010, the first step towards making the plans a reality was taken by a joint effort of several parties which showed interest for building a large-scale wind power project at the designated N33 location. The interested parties were a partnership consisting of several regional (predominantly agricultural) land-owners who joint forces in *Blaaswind Ltd.*, and the wind turbine company *KDE Energy Ltd.* This partnership intended to develop a windfarm of at least 120MW at the N33 location and therefore also applied for the *RCR* (100MW<). Therefore, conform procedure for wind power developments consisting of three turbines or more – which is 100MW<, an EIA procedure and assessment was obligatory. The process of the EIA started with a preliminary research into the scope of the eventual EIA; the so-called '*Scope and Level-of-detail Windfarm N33' (SL; 2012, 2016)*. This document presented a preliminary research into potential project design variants and their (environmental) impacts while also functioning as a framework for what variables are later included in the EIA. In other words, it determines what (environmental) effects or impacts are researcher and evaluated and at what level of detail or scale.

The first version of this document in 2012 presented five placement variants which all placed the turbines spread-out alongside the N33 highway ranging from the village of Wildervank in the south to Zuidbroek in the north. Yet, these variants were met with heavy opposition from local municipalities and inhabitants which resulted in the provincial government – at this point the mandated authority to come up with a spatial design for windfarm N33 – designing a sixth variant. This new variant concentrated all wind turbines in just a single area directly above the village of Meeden. The province deemed this location more suitable as the landscape impacts to the south were *now* considered to be unacceptable

and the new location at Meeden would '*objectively*' result in the least hinderance in terms of distance to housing and noise pollution – even though this new location was not considered an 'industrial area' (*SL; 2016*). Still, just as with the earlier variants, this sixth variant also met considerable opposition. Subsequently, in an effort to cater the opposition, project developers and the provincial government organized a series of meetings and workshops. Sadly, these meetings went no further than merely informing inhabitants of the existing plans. To illustrate, during these meetings the opposition promoted the plan to move a number, if not all, wind turbines to an area north of the A7 highway. This location – according to the opposition – would be more suitable for a large-scale wind power project as less people lived there thus less hinderance would occur. Yet, this area was not included in the SVOWE and the land was not owned by the initial developers of Blaaswind Ltd. As such, the province quickly disregarded the idea and decided against further elaboration of this site as acquisitioning and researching this location would further delay the project and jeopardize the project timeline and the attainment of the local and national sustainable energy targets. All in all, this course of events led to the spatial design challenge (still) being extremely controversial and opposition becoming fiercer every day. This heavy resistance eventually resulted in discord within the provincial government which resulted in it no longer wanting to take responsibility for Windfarm N33; thus, paving the way for the national government to take over the policy-making by means of the RCR.

In February 2017, in accordance with the RCR, the national government presented the final version of the 'National Integration Plan' (*NIP*) for the N33 wind power project. The *NIP* is a policy-instrument of the national government that provides a concrete (spatial) strategy for the factual realization of the plans and objectives of previous policies, in this instance the *SVOWE* (*Akerboom, 2018*). To the surprise of many, the NIP for the N33 did not include an elaboration of one of the six previously considered variants. Instead, it dictated a new variant referred to as the '*preferred alternative*'. This preferred alternative was presented as the "*optimized alternative*" as it – supposedly – combined the best aspects of the previous alternatives, and also provided the best environmental score in the accompanied *EIA (NIP, 2016)*. Especially its better score on livability, which was fully determined by noise, shadow, and nightlights hinderances, was found to be decisive (*NIP, p. 42*). As such, this optimized variant would maintain a larger distance to housing, remain – as if it would not before – within legal noise norms, and "optimized" (*emphasis on original; NIP, p. 42*) the windfarm design in terms of placement and alignment. In addition, a rather remarkable consideration was also added as the optimized variant would spread the turbines (*and the related impacts*) over three areas instead of concentrating them close to the village Meeden, albeit still upholding a fair share of turbines at the Meeden location (27 out of 35). Yet, why this distribution was preferred is not substantiated any further than expressing the goal to spread the (negative) effects over multiple areas – which might be interpreted as a merely symbolic decision. In addition, expressing existing concerns by submitting views proved unfruitful as besides minor changes to several aesthetic design elements (for example turbine model) no significant changes were made to the plan. All in all, predominantly based on the EIA-score, the national government imposed this preferred alternative by means of RCR making this '*optimized*' design for Windfarm N33 an inevitable – and for the local community still mostly unacceptable – reality.

Chapter 5: Putting the policy-making of Windfarm N33 in perspective

To logically follow-up on the described policy considerations of the previous chapter, this chapter first discusses how these – considerations – relate to the various community acceptance factors and the academic framework as set out in chapter 2 on a general level. And, subsequently, to connect EM and community acceptance, an argument for the potential influence of EM on the policy-making of Windfarm N33 is made based on multiple practical examples of EM from the case study. Altogether, this chapter means to provide a discussion of the data that allows for answering the second and third research question.

5.1 Windfarm N33 and community acceptance

After reading and comparing the previous chapters – in particular chapters 2 and 4 – an attentive reader might have noticed a rough pattern emerging in the policy-making of Windfarm N33. Whereas at first a *wide* range of policy considerations relevant for community acceptance – ranging from technical aspects such as turbine placement all the way to social issues such as stressing the importance of transparent information and empowering stakeholders – was included in the policy-making process, the eventual decisions in terms of siting and design were eventually made based on a much narrower and different range of policy considerations. In light of this thesis, this raises the question to what *kind* (i.e., what category of community acceptance factors) of considerations were initially proposed and recommended and what *kind* of considerations eventually remained to inform decisions further down the policy-making path; both in terms of the siting and design of Windfarm N33?

5.1.1 Siting

At first, with regards to the siting of large-scale wind power projects in general, the policy-making (i.e., the *SPOW*) can be considered to have adopted rather technical and economic criteria for its preliminary siting decisions (*p. 29*). Yet, the *SPOW* also provides several recommendations on multiple topics which are particularly relevant for attaining community acceptance. Among others, the recommendations regarding collaboration, clear and transparent information, and the empowerment of citizens can be classified as context factors; the inclusion of local wishes and expectations is relevant for individual characteristics, and local employment creation and fair distribution of (financial) costs and benefits fits the economic impacts category. Logically, one might expect a continuation of these recommendations in subsequent policies, but the contrary seems to have happened.

In the politically speaking more significant *SVIS[2]*, its subsequent wind-power-specific elaboration (*SVOWE*), and the accompanied *EIA*, siting decisions were eventually made based on three rather technical criteria (*p. 30*) while no longer paying direct – for the siting decision at least – attention to almost *any* of the recommendation from the *SPOW*. Instead, the issues regarding practicality and a good support base, which included the various contextual, individual, and economic community acceptance factors, were considered to be design-related issues and were forwarded accordingly (*see section 5.1.2*). Hence, issues related to practicality and support base were not included and addressed in siting decisions. Still, this does not mean that the other community acceptance categories as identified by *Leiren et al., 2020* were also absent in these follow-up documents. Alternatively, the *SVOWE* and its *EIA*

---

[2] Whereas the position paper SPOW does not hold any legal value per se, the SVIS, SVOWE, and its EIA, were discusses and officially approved by the national government (*Tweede Kamer*), and were susceptible to minor forms of public participation by means of non-binding 'views' (*in Dutch*: 'zienswijzen').

included a 'new' range of topics and consideration which are just as relevant for shaping community acceptance. Whereas the SPOW could not address the impacts of specific projects as project-specific knowledge (turbine type, shape, placement, etc.) was simply not yet available, the *SVOWE* and its *EIA* did include an exploratory study of project-specific designs and their predicted impacts. This allowed for an extensive elaboration of other community acceptance factors, namely the technical characteristics of the project (e.g., shadows and noise), its environmental impacts (flora and fauna), economic impacts (e.g., tourism and local business interests), and to a minimal extend societal impacts (health). Nevertheless, this change of course, especially the exclusion of contextual factors related to the planning process (e.g., collaboration and participation, transparent information), has shown to be problematic as it exacerbated preexisting concerns of the local community about the perceived fairness and justice of the decision-making process. For example, local communities were concerned with the unfair distribution of the economic benefits between the predominantly agricultural landowners and the inhabitants as this reminded them – rather unhappily – of the historic regional social structure of oppressive 'lord-farmers', and the distributional justice referring to the idea that north-east Groningen is constantly being (ab)used by the rest of the Netherlands for gains elsewhere than Groningen (in particular the gas production was repeatedly mentioned as an example; *see table 5*). Both concerns show a clear overlap with factors that affect the perceived fairness – and in turn community acceptance – of wind power projects (*cf. Leiren et al., 2020; Wolsink, 2010; or p. 18*).

All in all, this became particularly evident from the submitted views against the *SVOWE* and *EIA* of which four illustrative fragments are shown below. Moreover, after a first round of participation by means of allowing for the submitting of (non-binding) viewpoints by local stakeholders, nothing, besides minor changes to the health impacts category, substantially changed regarding the exclusion of these contextual factors, thus further fueling local resistance. Viewpoints concerned with topics unrelated to these new criteria – predominantly technical characteristics and environmental impacts – were simply dismissed by the *Ministry of IE* as it was considered to lie outside of the project's scope. In the end, this left the siting decision to be formally based on policy considerations that showed a dominant focus on technical characteristics and environmental impacts, and to a lesser extend also economic – on a national (*not local*) scale – and societal impacts; while no longer paying attention to contextual and individual community acceptance factors at this stage.

Table 4: Exemplary quotes regarding siting decisions

Exemplary quotes
"(…), but if you withhold information like that, you do not take the civilians seriously" (*Zondag, L., board member TegenwindN33; in De Veer, 2014i*).
"Farmers who own the land get the building rights (for the turbines). They get, from the developers, 30 to 40 thousand euros each year for a wind turbine of 3MW. (…). They embrace this opportunity, but it results in skewed proportions. The burdens and benefits need to be better distributed." (*Moorlag, W. deputy for the province of Gronignen; in De Veer, 2014ii*).
"Windfarm N33 pressures the existing social classes in the area which is characterized by the sensitive history between (lord)farmers and their workers." (*De Veer, 2016i; DvhN*).

"(…) the 'energy-slurping' and waist full Randstad who for decades has been parasitizing on the gas from Groningen." (*Stikfort, 2019i*).

Source: author (translated from Dutch; see appendix I for original)

5.1.2 Design
The *SVOWE* made several substantially diverse recommendations for the design phase of the N33 project. First, it advised to come up with the spatial design in collaboration between local governments and developers while considering three aesthetic criteria (*p. 31*). Further, the *SVOWE* – rather ironically – also reiterated and emphasized the importance of the creation of a good support base by means of adequate participation and consultation procedures, fair division of both financial and distributional benefits and burdens, and integral area development. All of these considerations, especially when combined, can be deemed to be relevant for positively shaping community acceptance; i.e., due to these policy considerations representing a broad range of the community acceptance categories (*Leiren et al., 2020*). In addition, the adjoined *EIA* took it one step further by also acknowledging the potential impact of a local 'shared identity' and the significance of health issues; both respectively clear-cut individual and societal community acceptance factors. Hence, as far as the initial setup for the design phase is concerned, it could be argued that there appears to be sufficient attention to a relatively wide range of factors that help shape community acceptance.

Nevertheless, analysis of the *NIP* – the document which explained and elaborated on the eventual design decisions, showed – again – only (very) limited inclusion of mainly the contextual and individual community acceptance factors previously mentioned in the recommendations. Instead of following up on the advice of the *SVOWE*, the *Ministry of Economic Affairs (EA)* – now the responsible Ministry for the environment – simply imposed ('*top-down*') a preferred and 'optimized' design alternative based on policy consideration which can plainly be considered to be a pallet or discussion of mostly technical and environmental characteristics. The *NIP* predominantly justified the (final) decision for this preferred variant by emphasizing its better score on the project-specific *EIA*. This score was mainly built up from a mix of technical and environmental considerations which were on their own already acknowledged – in the *EIA-SVOWE* – to be a too limited framework for providing a 'complete' assessment (*p. 38*). Nevertheless, especially the better scores on technical characteristics related to hinderance (noise, lighting, etc.), distance to housing, and placement and alignment of the turbines have earned this variant its title of *optimized* alternative (*NIP, p. 41*). In this sense, the eventual decision appears to be a continuation of the aesthetic recommendations rather than a complete and diversified considerations package.

Hence, on a general level, there is a tendency in the policy-making of Windfarm N33 to consequently prefer a focus on technical and environmental community acceptance factors, while structurally omitting community acceptance factors which are more oriented towards context factors and individual characteristics. In addition, to further add to the strength of the argument, this finding shows clear parallels with the results of other academic sources. As early as 2012, *Wolsink (2012)* identified the tendency of policy-makers concerned with sustainable energy technologies to usually only minimally include 'soft factors' in the policy-making process due to a too narrow and technical approach to social acceptance issues – which include community acceptance (*see Wüstenhagen et al., 2007*). To put it in his own words: "*Within policy there is a strong rooted institutional tendency to look at energy issues*

(…) primarily – may be even solely – as technical problems" (*Wolsink, 2012, p. 19*). Along this line, albeit being more specifically related to large-scale wind power projects in the Netherlands, *Akerboom (2018)* concluded that wind power policies in general were highly influenced by "*technical information and specific expertise, rather than stakeholders' opinions*" (*ibid., p. 151*). Her paper explicitly mentions *communication* and *(financial) participation* as two – relevant for shaping community acceptance – factors which were valued by the local community, but were (perceived to be) absent in the decision-making for large-scale wind power projects. And finally, a research project named RESPONSE from the TU Delft which (among others) followed and examined the policy-making of the N33 project, found a dominant focus on technical and environmental issues to determine the *publics' value* regarding sustainable energy projects (*RESPONSE, 2020*). Moreover, the project report also acknowledged and concluded that this approach does not seem to cover all existing values; in particular trust and recognition – both contextual community acceptance factors – were found to be missing in the policy-making of Windfarm N33 and included as an example in the report (*RESPONSE, 2020; p. 16*). Nonetheless, even though this tendency is rather evident, whether and to what extend this might be attributed to EM remains still open for debate.

5.2 Ecological Modernization at work?
In contrast to the previous paragraph, it is much harder – if not impossible – to exactly pinpoint why or how EM has manifested itself in the policy-making process on a practical level, and whether this has eventually resulted in the tendency to neglect contextual and individual community acceptance factors. Yet, even though the nature of the analysis and research does not allow for causation, some important observations can be made as multiple examples of EM tendencies were found in the policy-making for Windfarm N33. *Three* of the most evident observations are discussed below.

5.2.1 The role of the EIA
The *EIAs* have been amongst the most contested documents in the policy-making of windfarm N33. On the one hand they provide an extensive and detailed study into a variety of predominantly technical and environmental impacts of a project which '*proves*' – as the damages are considered by the relevant *Ministries* to be reasonable and comparable to other projects – adequate spatial planning, while on the other hand, according to the submitted views, the *EIAs* simply do not address some – if not the most – pressing concerns of the local community. Analysis of these views showed substantial concerns related to for example and among others the transparency, trustworthiness, and accessibility of information; the planning and permitting process in terms of poor participation and the lack of a support base; distributional and financial justice; absence of trust in the developers and the provincial and national government; and a perceived decrease in the villages' *ambiance (in Dutch: sfeer)* meaning a perceived loss of solidarity and worsening contacts with other local inhabitant as a consequence of the poor participation procedure. Nonetheless, policy-makers would quickly dismiss such raised concerns on the basis of not being admissible or relevant as these concerns lied outside the scope of the *EIAs*. Yet, seemingly against better judgement – as previous policies and the EIAs themselves argued for the inclusion and relevance of other (mostly non-technical or environmental) factors for proper spatial planning (e.g., recommendations in the *SPOW* and 'shared identity' in the *EIA-SOWE*), the *EIAs* were still used by the Ministries to justify the followed procedures. In other words, despite these prior warnings, the responsible

Ministries (IE and EA successively) would still often solely refer back to the technical discussion in the EIA to argue for adequate and sufficient spatial planning.

However, not just policy-makers and developers showed interest in debating technical terms as plenty of views did in fact address the technical variables of the *EIAs.* In particular the variables regarding hinderance and safety would become heavily debated topics. Yet, the 'nature' of the knowledge required to properly voice hinderance and safety concerns was perceived to be a serious barrier; referring to the fact that appealing scientifically substantiated arguments and decisions requires a certain amount of scientific understanding. This resulted in a general feeling of *impotence* as most views were only able to raise scientifically unsubstantiated concerns regarding hinderance, safety, or health issues, and thus were not taken into further (policy-making) consideration. In general, this severely limited the (*perceived*) amount of influence the local community could exercise on the policy-making processes while it allowed policy-makers to convincingly make their rather *undisputed* case and subsequently implement the *unchanged* plans. This issue was also identified by Akerboom (2018) as she states that people perceived to not have sufficient knowledge or capacity to question or refute the claims of the EIA and therefore found it difficult to question or disagree with the '*factual'* scientific information while still being dissatisfied with the process and outcomes of a project. Hence, one could argue that for the N33 a sole focus on discussing technical terms did not yield the desired results for community acceptance.

To end this example, this discussion provides an illustration of how policy-makers constructed their decisions and to what counted as a valid argument or claim in this policy-making process. It describes a dominant focus on scientific information for determining the truth while other arguments – predominantly experience and value oriented – were marginalized to be not relevant for the policy-making procedures. As a consequence, this tendency reinforced the perceived inability of the opposition to submit a *valid* view which in turn exacerbated the perception of the local community that their concerns were not being heard or that they were not taken seriously; both relevant factors for shaping community acceptance. Similarly, the previously mentioned *RESPONSE* research project concluded that, for sustainable energy projects in general, there appears to be a policy ideal that policies and decisions should be based on generalizable and scientific information which in turn results in the consequent undervaluation of *emotional* arguments (*RESPONSE, 2020)*. Also, this scientistic focus allowed policy-makers for the N33 to divert the debate towards technical discussions without having to engage with subjective experiences and values, and without revisiting the more fundamental decisions related to for example why a windfarm is necessary at this specific location or the discussing of alternative projects. To illustrate, for instances when opposition did in fact provide scientifically substantiated arguments (mostly related to alternatives such as solar energy), the Ministry of EA would simply dismiss the argument as it did not lie within the scope of the *EIAs* (*INTVW 1*).

5.2.2 The case of health

To continue along the line of the previous section, describing how health was included in the policy-making provides another clear-cut example of the policy-makers' underlying approach. At first, health was not explicitly included as a separate category due to it being considered to belong – implicitly – to the hinderance factors as for example noise and shadows. Also, policy-makers claimed that no scientific research was available linking windfarms directly to health risks. To illustrate: "*The effects on human health as a consequence of large-scale wind power projects are not separately included into this EIA. (…) in a general sense, there is little*

knowledge available regarding the effect-relationship between windfarms and (human) health" (*SVOWE-EIA, p. 49*). Instead, health was addressed through the discussion of technical data in terms of for example distance to housing, range of shadows, and frequencies of flickering, and the – for these hinderance factors – related legal thresholds. Yet, the website of TegenwindN33, local news, and the submitted views show that the local community was not as care-free and they held serious concerns regarding their personal health. Especially the consequences of long-term exposure to low frequency vibrations or noise, sleeplessness due to noises and lighting, and worsening mental health as a result of for example stress due to decreasing property values were repeatedly mentioned health-related concerns (*e.g., Sporrel, 2019; Hofslot, 2019; view 0086 SVOWE*). Nevertheless, even when the policy-makers – at this point the *Ministry of IE* – were confronted with this discrepancy, only minimal changed were made to the health category in the *EIA*. Moreover, in the *EIA* for the *NIP* health was no longer mentioned as previous scientific research could not unambiguously provide proof for a relationship between wind turbines and human health (*see 'Nota van Antwoord NIP', 2017*).

In contrast to the previous section, it can be argued that health (i.e., a societal impact) clearly lied within the scope of the policy-makers, yet it was simply not elaborated on due to the lack of scientific 'evidence'. Interpreted this way, one could potentially distill two insights from this example; first, it provides an indication of how and based on what knowledge (predominantly scientific) policy-makers made decisions and secondly, considering the share number of views that expresses health-related concerns, it also showcases the limited value policy-makers attributed to these views; thus, the input from the local community. Both – at least with some benevolence – occurrences which resemble the EM discourse.

5.2.3 Responsibility for community acceptance

For the windfarm N33, project developers were considered to be responsible for 'creating' a good support base and (*community*) acceptance. Yet, this assigned responsibility proved to be rather problematic as the developers were only included in the design phase of the project and consisted of (*predominantly*) economic actors. At this advanced stage of the project, the siting decisions were already formalized and had resulted in significant local resistance which translated to the local community (now often united in partisan interest groups such as TegenwindN33) no longer willing to talk or collaborate. Further, whenever the developer would be able to establish some form of communication, the sole instrument for subsequently creating a support base was by means of financial compensation and participation. This, however, was mostly perceived to be a *bride* or settlement offer by the local community. By accepting – or even discussing – such an agreement, parts of the local community felt like they would accept or comply with the project (*see table 6*). In the end, this perception led to staggeringly low financial compensation and participation for the local community when compared to projects with a similar size in for example Denmark (*De Veer, 2020iii; Jørgensen et al., 2020*). Instead, to alleviate some of the (local) pain, developers – '*voluntarily*' and out of '*generosity*' – donate an amount of €157.000 (annually) to a municipal fund of which the exact distribution remains undecided and remained until the day of writing a heavily debated topic (*INTVW A*).

Now that the local community proved unwilling to discuss financial compensation of any sort, developers decided they were incapable of further resolving the issue. The project developers attributed this inability to create a good support base to not having the required resources and capacity to actually address the issues that were mostly raised; for example, fair distribution of wind mills (both over the Netherlands as a whole, and within the project

area). However, one might argue that attaining community acceptance is also not in the interest of the profit-oriented developers per se, at least not when there is no financial or legal downside or consequence related to a lack of community acceptance. Moreover, *INTVW 2* also partially blamed the relevant subsidy structure (*in Dutch 'SDE-subsidie'*) for the developers lack of interest in community acceptance. These subsidies would push developers to minimize costs as only the most cost-effective developers would receive significant financial contributions from the national government. Hence, in hindsight, one might question whether allaying the responsibility for community acceptance to the economically oriented developers which operate solely in the design phase of a project without further policy-making and decision-making capacity or binding legal framework for a support base or (*community*) acceptance, was such a good idea. To compare, in Denmark – who is generally considered a successful forerunner, these norms regarding among others a good support base have a legal foundation in the law to for example account for the biased interest of the developer (*Medonça et al., 2017; Jørgensen et al., 2020*).

When comparing this example to EM, the *business oriented* discursive tendency and related policy outcomes seem to be represented. First, the strong reliance on business actors – over for example other (local) and public organizations – becomes apparent through the delegated responsibility for community acceptance. And secondly, the developers – after all a business – proved only capable of providing monetary stimuli in the form of financial compensation and participation. And as a consequence, in this instance, allaying the responsibility for community acceptance to the developers only allowed for – theoretically speaking – partially shaping community acceptance.

Table 5: **Exemplary quotes regarding financial compensation and participation**

Exemplary quotes
"We will not accept a bribe and continue to fight against this atrocity that will destroy our village." (Hendriks, J., member of TegenwindN33; in De Veer, 2017; DvhN).
"They want to know under what conditions (read: financial compensation) the local community would agree to or accept the windfarm." (Stikfort, 2019ii; DvhN).
"Some directly involved stakeholders call the compensation fund a 'laughingstock'. Instead, they talk of a bribes or kickbacks (in Dutch: 'smeergeld')." (Mulder, 2017; DvhN).
"The government is the architect who determines where and under what conditions the windfarms will be realized. (…) we (developers) are not the one who make the policies. We are responsible for our tasks and the government for theirs. We do not make the rules." (Terium, P., employee RWE/Essent; in De Veer, 2016ii; DvhN).

Source: author (translated from Dutch; see appendix I for original)

Chapter 6: Discussion and reflection

6.1 Final statements and discussion

At this point, this research has addressed the various research questions; chapter 2 provides an extensive answer to what policy-making implications can be expected from an EM discourse (*see table 1*), and chapter 4 and 5 elaborate on the second and third research questions respectively. Therefore, as all research questions have now been elaborated upon, this research can discuss the findings in light of the main research question; *How did the ecological modernization discourse affect the policy-making for the large-scale wind power project Windfarm N33 with regards to community acceptance?* Henceforth, this research can on an abstract level confidentially argue that the initial expectation as set-out by this research in the conceptual model (*figure 1*); i.e., the negligence of context factors and individual characters, has to a large extend become a reality in the policy-making of Windfarm N33. Whereas there initially appeared to be sufficient attention for a wide range of factors relevant for shaping community acceptance, the policy-making process narrowed down to focus predominantly on technical and environmental community acceptance factors while structurally neglecting context factors and individual characteristics. In addition, the policy-making of the N33 project shows clear resemblance to the overarching EM discourse as the discussed examples display multiple similarities with the theoretical discursive tendencies of EM and their related policy-outcomes as presented in *table 1*. However, based on the examples presented in the previous chapter, it would be wrong for this research to build on inductive logic and conclude that EM is – fully or just partially – to blame for the lack of attention to contextual and individual factors and the poor community acceptance in the N33 project – as was also not the intention of this research. Thereagainst, this research can positively argue for resemblance between the EM discourse and the policy-making of Windfarm N33; in particular the *scientistic orientation* through the specific use of the EIA and the health category, and a *business orientation* through the delegated responsibility for community acceptance towards the project developers. Also, it has become rather evident from these examples that these orientations were crucial for the policy-making of the N33 project as these orientations were found to be the origin of various community acceptance problems. Yet, whether and to what extend the poor level of community acceptance can actually be attributed to the EM discourse remains still open for debate or future research.

Further, it is important to note that these findings need to be put in perspective as scholars have repeatedly also blamed the institutional and legal setting for the bias towards technical and environmental (and to a lesser extend economic) factors in the policy-making of large-scale sustainable energy projects in the Netherlands (*Akerboom, 2018; Wolsink, 2018; RESPONSE, 2020*). Especially the combination of the legal obligation for an EIA, the administrative value attributed to an EIA, and the limited legal requirements for participation and a good support base have been found to create a difficult policy-making environment for the inclusion of *all* community acceptance factors, in particular community acceptance factors which are less *tangible* and would probably be categorized as context factors or individual characteristics. Also, as there only is a limited legal framework for participation and collaboration, stakeholders' appeals and viewpoints remain susceptible to the scrutiny of the relevant government – in hindsight this might partially explain the advice regarding the empowerment of citizens in the position paper. Nevertheless, what is important is that it needs to be acknowledges that the poor level of community acceptance at Windfarm N33

cannot simply be attributed to a single cause or problem, but is the outcome of various interrelated circumstances.

Nevertheless, this critique does not prevent this research from providing some policy advice and recommendations for planning practice. This research would advise policy-makers and planning practitioners who are aiming for attaining a sufficient level of community acceptance to include and pay attention to a wide range of community acceptance factors categories at the time when the decision related to these issues are actually made. Generally, at a very early stage which also includes the siting decisions of these projects (*cf. Akerboom, 2018; Leiren et al., 2020*). Second, even though this research cannot unambiguously claim that the EM discourse shaped the policy-making of Windfarm N33 with regards to community acceptance, it might still be beneficial for environmental policy-making to at least be aware of the potential discursive tendencies and effects of EM. Especially when considering that a scientist and economic orientation – whether or not labeled EM – have perpetuated environmental policy-making in the recent years. There appears – considering the similarity with the findings of the other papers discussed in the previous chapter (*cf. RESPONSE, 2020; Akerboom, 2018*) – to be some re-occurring pattern or general resemblance with the EM tendencies in the field of environmental policy-making, especially in sustainable energy policy. Hence, to further uncover the prominence and effects an EM discourse might have on policy-making, future research might for example be interested in conducting a literature desk-study of a body of scientific papers (a *literature review*) to examine whether the identified discursive EM tendencies and related policy outcomes are present in the findings of other case studies and papers. This way it might be possible to examine policy-making processes without the need to operationalize the rather vague or abstract EM concepts – while still being able to uphold the by this thesis identified EM tendencies and policy outcomes (*table 1*).

Directly related to the previous, this research contributed to theory as it has advanced the (practical) knowledge of EM for environmental policy-making by identifying and bringing together several of its discursive tendencies and related policy outcomes. Hereby it directly contributes to the request of multiple scholars for more practical knowledge of EM (). While previous research has generally refrained from discussing a prescriptive EM variant for policy-making in practice, this research provides a relatively practical framework on which subsequent planning research interested into EM-oriented policy-making might build or use. In addition, regarding a more methodological contribution to planning theory, this research applied a 'new' content analysis variant. Whereas *deductive qualitative content analysis* has been a widely adopted method in health sciences for quite some time, it has not (*yet*) been widely adopted for analyzing (environmental) policies (*Hall and Steiner, 2020*). By combining the methodology of *Elo and Kyngäs (2008)* from health sciences with the exploratory study into the usefulness of deductive content analysis for policy sciences by *Hall and Steiner (2020)*, this research provides a rather innovative practical example of this method which could be used by future planning researchers and practitioners who aim to identify patterns, tendencies, or biases in policy-making processes.

Finally, to end this thesis with a rather ironic and remarkable '*coincidence*', the change of Ministries under which the policy-making of wind power in the Netherlands and the N33 project took place also seems to resemble the *business* orientation of EM. Up until 2017, the environment would fall under the competencies of the Ministry of Infrastructure and the Environment while afterwards the environment was 'relocated' to the Ministry of Economic Affairs. Yet, besides highlighting this coincidence, this research cannot provide evidence to

further substantiate any argument. Hence, this thesis leaves it up to the reader to speculate whether this is a *coincidence* or *symbolic* for environmental policy-making in the Netherlands.

6.2 Reflection

This chapter will conclude with a brief reflection on the conducted research. First, the (mostly) documentary dataset provided some difficulties with regards to fully uncovering a policy discourse as written materials do not (always) reflect all made considerations and how these considerations were discussed, presented, and addressed. In general, it would be beneficial for the researcher aiming to adopt a discourse approach to be present at the relevant meetings at the time these took place; the alternative being recordings or minutes (*cf. RESPONSE, 2020*). Also, discourse analysis requires the researcher to be fully and extensively emerged in the data. This proved to be hard for a single researcher collecting and analyzing all the data. As such, a supportive team would be more preferable. Secondly, the adopted analysis (*deductive qualitative content analysis*) has been critiqued to have the tendency to show what the researcher is looking for, rather than contradicting evidence (*Kyngäs and Kaakinen, 2020*). In response to this risk, the researcher qualified the findings to allow room for interpretation and analyzed and compared multiple (and different) sources of evidence to find potential alternative explanations or tendencies. Yet, in the end, all sources displayed the same trend. Third, this research cannot attribute reciprocal values (i.*e., relative importance*) to each community acceptance factor as not all community acceptance factors were equally – or at all – present in the dataset and the nature of the analysis (qualitative) does not allow for such evaluation. Hence, this research is only capable of stating that without a diversified pallet of attention on multiple community acceptance factors proper acceptance is probably less likely. Further research might want to take the relative importance into account as this provides useful information for policy-making practice (*see for example Leiren et al., 2020).* Fourth, even though an extensive research consisting of focus groups and numerous interviews might seem a more suitable research design at first, this research opted for a predominantly documentary desk-study as the pandemic would simply not allow for such a research design, and there was a risk of 'over-researching' this specific case as other researchers had previously conducted extensive investigations. And finally, this research advices some caution regarding the readers' potential interpretation of the influence of EM on the policy-making process of N33 as identifying EM on a practical level in such extensive processes is difficult and would ideally be done based on more cases and a significantly larger dataset.

References

Agterbosch, S., Glasbergen, P., & Vermeulen, W. J. V. (2007). Social barriers in wind power implementation in The Netherlands: Perceptions of wind power entrepreneurs and local civil servants of institutional and social conditions in realizing wind power projects. *Renewable and Sustainable Energy Reviews*, 11(6), 1025–1055.

Akerboom, S. (2018). *Between public participation and energy transition: the case of wind farms.* PhD. University of Amsterdam.

Al-Saadi, H. (2014). Demystifying ontology and epistemology in research methods. University of Sheffield. Available at: https://www.researchgate.net/publication/260244813_Demystifying_Ontology_and_Epistemology_in_Research_Methods?enrichId=rgreq-7f090796c1135e08cc73618a3701307e-XXX&enrichSource=Y292ZXJQYWdlOzI2MDI0NDgxMztBUzoxMDMzMTY4NzI3NjEzNDRAMTQwMTY0NDA3MDE1Mg%3D%3D&el=1_x_2&_esc=publicationCoverPdf.

Arshad, M., & O'Kelly, B. (2019). Global status of wind power generation: Theory, practice, and challenges. *International journal of Green Energy,* 16(14), 1073-1090.

Assaroudi, A., Nabavi, F., Armat, M., Ebadi, A., & Vaismoradi, M. (2018). Directed qualitative content analysis: the description and elaboration of its underpinning methods and data analysis process. *Journal of Research in Nursing*, 23(1), 42-55.

Armat, M., Assaroudi, A., Rad, M., Sharifi, H., & Heydari, A. (2018). Inductive and deductive: ambiguous labels in qualitative content analysis. *The Qualitative Report*, 23(1), 219-221.

Avila, F. (2018). Environmental justice and the expanding geography of wind power conflicts. *Sustainability Science*, 13, 599-616.

Bacchi, C. (2000). Policy as Discourse: What does it mean? Where does it get us? *Discourse: Studies in Cultural Politics Education,* 21(1), 45-57.

Bailey, I., Gouldson, A., & Newell, P. (2011). Ecological Modernisation and the governance of carbon: A critical analysis. *Antipode*, 43(3), 682-703.

Baker, S. (2007). Sustainable development as symbolic commitment: Declaratory politics and the seductive appeal of ecological modernisation in the European Union. *Environmental Politics,* 16(2), 297-317.

Bell, D., Gray, T., & Hagget, C. (2005). The 'Social Gap' in wind farm siting decisions: Explanations and policy responses. *Environmental Politics*, 14, 460-477.

Berger, G., Flynn, A., & Hines, F. (2001). Ecological modernization as a basis for environmental policy: Current environmental discourse and policy and the implications on environmental supply chain management. *The European Journal of Social Science Research,* 14(1), 55-72.

Birkland, T. (2019). *An introduction to the policy process: Theories, concepts, and models of public policy making*. Routledge: New York.

Breukers, S. (2007). *Changing institutional landscapes for implementing wind power: a geographical comparison of institutional capacity building: The Netherlands, England and North Rhine-Westphalia.* PhD. University of Amsterdam.

(i) Breukers, S., & Wolsink, M. (2007). Wind energy policies in the Netherlands: Institutional capacity-building for ecological modernisation. *Environmental politics*, 16(1), 92-112.

(ii) Breukers, S., & Wolsink, M. (2007). Wind power implementation in changing institutional landscapes: An international comparison. *Energy Policy,* 35, 2737-2750.

Broesder, P. (2019). Trillingsmeters moeten gevolgen heien Windpark N33 in kaart brengen. *Dagblad van het Noorden.* Oktober 24, 2019 [online]. Available at: https://www.dvhn.nl/groningen/Trillingsmeters-moeten-gevolgen-heien-Windpark-N33-in-kaart-brengen-24948696.html.

Buttel, F. H. (2000). Ecological Modernization as social theory. *Geoforum,* 31, 57-65.

Buttel, F. H. (2003). Some reflection on late twethieth century agrarian political economy. *Sociologia Ruralis,* 41(2), 165-181.

Carlman, I. (1982). Wind energy potential in Sweden: The importance of non-technical factors. At: The *Fourth International Symposium on Wind*

Energy Systems. September 21–24, 1982, Stockholm, pp. 335–348.

Centraal Plan Bureau; CPB (2013). *KBA Structuurvisie 6000MW Windenergie op Land*. CPB Notitie 14 juni 2013. Available at: https://www.cpb.nl/sites/default/files/publicaties/download/cpb-notitie-14jun2013-kba-structuurvisie-6000-mw-windenergie-op-land.pdf.

Christoff, P. (1996). Ecological Modernisation, Ecological Modernities. *Environmental Politics*, 5(3), 476-500.

Clifford, N., French, S. & Valentine, G. (2010). *Key Methods in Geography*. SAGE Publications Ltd.: London.

Cowell, R. (2007). Wind Power and 'The Planning Problem': The Experience of Wales. *European Environment*, 17, 291-306.

Curran, G. (2015). *Sustainability and Energy Politics, Ecologial Modernisation and corporate social Responsibility*. Palgrave macmillan: Houndsmills, UK.

Davidson, D. J., & MacKendrick, N. A. (2009). All dressed up with nowhere to go: the discourse of ecological modernization of Alberta, Canada*. *Canadian Review of Sociology,* 41(1), 47-65.

De Boer, J., & Zuidema, C. (2015). Towards an integrated energy landscape. Urban Planning and Design, 163(5), 231-240.

De Haan, W. (2019). Waarom de aanleg van windparken niet aan de vrije markt moet worden overgelaten. *Vrij Nederland*. November 27, 2019 [online]. Available at: https://www.vn.nl/windenergie/.

Denzin, N., & Lincoln, Y. (2018). *The Sage handbook of qualitative research* (5th edition)*. Sage: Los Angeles.

(i) De Veer, J. (2020). Positie van omwonenden wind- en zonnepark in de provincie Groningen zwak. *Dagblad van het Noorden.* March 2, 2020 [online]. Available at: https://www.dvhn.nl/groningen/Positie-van-omwonenden-wind-en-zonnepark-in-de-provincie-Groningen-zwak-25412784.html.

(ii) De Veer, J. (2020). Windmolenactivist Jan H. niet langer verwacht van bedreigen gedeputeerde Fleur Gräper. *Dagblad van het Noorden.* May 13, 2019

[online]. Available at: https://www.dvhn.nl/groningen/Activist-Jan-H.-niet-langer-verdacht-van-bedreiging-25662712.html.

(iii) De Veer, J. (2020). Weinig lusten voor buren van wind- en zonneparken. *Dagblad van het Noorden.* March 3, 2020. Available at: https://www.dvhn.nl/groningen/Positie-van-omwonenden-wind-en-zonnepark-in-de-provincie-Groningen-zwak-25412784.html.

Devine-Wright, P. (2009). Rethinking Nimbyism: the role of place attachment and place identity in explaining place protective action. *Journal of Community & Applied Social Psychology*, 19, 426-441.

Devine-Wright, P. (2011). Public engagement with large-scale renewable energy technologies: Breaking the cycle of NIMBYism. *WIREs Climate Change*, 2, 19-26.

Devine-Wright, P., & Wiersma, B. (2020). Understanding community acceptance of a potential offshore wind energy project tin different locations: An island-based analysis of 'place-technology fit'. *Energy Policy*, 1(37), 111086.

Djerf-Pierre, M., Cokley, J., & Kuchel, L. (2016). Framing renewable energy: A comparative study of news-papers in Australia and Sweden. *Environmental Communication*, 10(5), 634-655.

Dryzek, J. (1997; 2005). *The Politics of the Earth: Environmental Discourses, second edition.* Oxford University Press: Oxford.

Dryzek, J., Hunold, C., Schlosberg, D., Downes, D., & Hernes, H. (2002). Environmental Transformation of the State: The USA, Norway, Germany and the UK. *Political Studies*, 50(4), 659–82.

Eden, S. (1999). We have the facts – how business claims legitimacy in the environmental debate. *Environment and Planning A*, 31, 1295–1309.

Elo, S., Kääriäinen, Kanste, O., Pölkki, T., Utriainen, K., & Kyngäs, H. (2014). Qualitative content analysis: a focus on trustworthiness. *SAGE Open January-March,* 1-10.

Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing,* 62(1), 107-115.

Ewing, J. A. (2017). Hollow Ecology: Ecological Modernization Theory and the Death of Nature. *Journal of World-Systems Research*, 23(1), 126-155).

Farchi, T., & Salge, T. (2017). Shaping innovation in health care: A content analysis of innovation policies in English NHS, 1948-2015. *Social Science & Medicine,* 192, 143-151.

Fauset, C. (2010). The techno-fix approach to climate change and the energy crisis, issues and alternatives. In: Sparking, A., K. (2010). *A worldwide energy revolution: social struggles in the transition to a post-petrol world*. 300-310. AK Press: USA.

Feindt, P. H., & Oels, A. (2005). Does discourse matter? Discourse analysis in environmental policy making. *Journal of Environmental Policy and Planning,* 7(3), 161-173.

Feinstein, N. W., & Kirchgasler, K. L. (2014). Sustainability in science education? How the next generation science standards approach sustainability, and why it matters. *Science Education,* 99(1), 121-144.

Fischer, F. (2000). *Citizens, experts, and the environment: the politics of local knowledge*. Duke University Press: Durham, NC.

Fisher, D.R., & Freudenburg, W.R. (2001). Ecological modernization and its critics: Assessing the past and looking toward the future. *Society and Natural Resources*, 14, 701-709.

Flacke, J., & De Boer, C. (2017). An Interactive Planning Support Tool for Addressing Social Acceptance of Renewable Energy Projects in The Netherlands. *ISPRS International Journal of Geo-Information*, 6(10), 313.

Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry,* 12(2), 219-245.

Fournis, Y., & Fortin, M. (2017). From social 'acceptance' to social 'acceptability' of wind energy projects: Towards a territorial perspective. Journal of Environmental Planning and Management, 60(1), 1-21.

Fuller, B. (1969). *Operating Manual for Spaceship Earth.* Lars Müller Publisher: Zurich.

Giddens, A. (1990). *The consequences of Modernity*. Polity Press: Cambridge, UK.

Giddens, A. (2009). *The politics of Climate Change.* Polity Press: Cambridge, UK.

Glynn, P. J., Cadmam, T., & Maraseni, T. N. (2017). Chapter 1: Ecological modernization: theory and the policy process. In: Glynn, P. J., Cadmam, T., & Maraseni, T. N. (2017). *Business, Organized Labour and Climate policy*; forging a role at the negotiating table. Edward Elgar Publishing limited: London.

Gross, C. (2007). Community perspectives of wind energy in Australia: the application of a justice and community fairness framework to increase social acceptance. *Energy Policy,* 35, 2727–2736.

Hajer, M. (1995). *The Politics of Environmental discourse: Ecological modernization and the policy process*. Clarendon Press: Oxford.

Hajer, M. (1996). Ecological modernisation as cultural politics. In: Lash, S., Szerszynski, B., & Wynne, B. (1996). *Risk, environment, and modernity: towards a new ecology.* 246-268. Sage Publications: London.

Hajer, M. (2004). Discourse Analysis and the Study of Policy Making. *European Political Science,* 2(1), 61-65.

Hajer, M., & Versteeg, M. (2005). A decade of discourse analysis of environmental politics: achievements, challenges, perspectives. *Journal of Environmental Policy and Planning*, 7(3), 175-184.

Hall, P. (1993). Policy paradigms, social learning and the state: the case of economic policymaking in Britain. *Comparative Politics*, 25, 275-296.

Hall, D., & Steiner, R. (2020). Policy content analysis: Qualitative method for analyzing sub-national insect pollinator legislation. *MethodsX,* 7, 100787, 2-7.

Hendriks, C., Obernosterer, R., Müller, D., Kytzia, S., Baccini, P., & Brunner, P. (2000). Material flow analysis: A tool to support environmental policy decision making. Case-studies on the city of Vienna and the Swiss lowlands. *The International Journal of Justice and Sustainability,* 5(3), 311-328.

Hennink, M., Hutter, I., & Bailey, A. (2011). *Qualitative Research Methods*. Sage: UK.

Hofslot, G. (2019). Windmolens. *Dagblad van het Noorden.* January 29, 2019.

Horbaty, R., Huber, S., & Geraint, E. (2012). Large-scale wind deployment, social scceptance. *WIREs Energy Environment,* 1, 194-205.

Howes, M., McKenzie, M., Gleeson, B., Gray., R., Byrne, J., & Daniels, P. (2010). Adapting ecological modernization to the Australian context. *Journal of Integrative Environmental Sciences,* 7(1), 5-21.

Huber, J. (1982). *The lost innocence of ecology: new technologies and superindustrialized development*. Fisher Verlag: Frankfurt am Main.

Huber, J. (2001). *Allgemeine Umweltsoziologie*. (Opladen: Westdeutscher Verlag). Vs Verlag FüR Sozialwissenschaften: Mainz.

Huijts, N., Midden, C., & Meijnders, A. (2007). Social acceptance of carbon dioxide storage. *Energy Policy,* 35(5), 2780-2789.

Jänicke, M. (1993). On Ecological and Political Modernization. In: Mol, A., Sonneveld, D, & Spaargaren, G. (2009). *The Ecological Modernisation Reader.* Routledge: London and New York.

Jänicke, M. (2008). Ecological modernisation: new perspectives. *Journal of Cleaner Production*, 16, 557-565.

Jänicke, M., & Weidner, H. (1997). 'Germany.' In: Jänicke, M., & Weidner, H. (1997). *National Environmental Policies: A Comparative Study of Capacity-Building*. Springer: New York.

Jørgensen, M., Anker, H., & Lassen, J. (2020). Distributive fairness and local acceptance of wind turbines: The role of compensation schemes. *Energy Policy,* 138, 111294.

Kangas, J. (2019). Picturing two modernities: ecological modernization and the media imagery of climate change. *Nordicon Review,* 40, 61-74.

Kemp, R. (2010). The Dutch Energy transitions approach. *International Economics and economic policy*, 7, 291-316.

Kim, K., & Chung, H. (2018). Eco-Modernist Environmental Politics and Counter-Activism Around the 2018 PyeongChang Winter Games. *Sociology of Sport Journal,* 35, 17-28.

Klungel, M. (2020). Windmolens langs de N33 gaan binnenkort de hoogte in: 'Ik vrees het ergste'. *RTV Noord.* May 8, 2020 [online]. Available at: https://www.rtvnoord.nl/nieuws/585996/Windmolens-langs-N33-gaan-binnenkort-de-hoogte-in-Ik-vrees-het-ergste.

Kluskens, N., Vasseur, V., & Benning, R. (2018). Energy Justice as Part of the Acceptance of Wind Energy: An Analysis of Limburg in the Netherlands. *Energies*, 12(22), 4382.

Kohlbacher, F. (2006). The use of qualitative content analysis in case study research. *Forum: Qualitative Social Research,* 7(1).

Krippendorff, K. (2004). Content Analysis: An Introduction to Its Methodology. Second Edition. Sage: Thousand Oaks, CA.

Kyngäs, H., Mikkonen, K., & Kääriäinen, M. (2020). *The Application of content analysis in nursing science.* Springer Nature: Chamonix.

Kyngäs, H., & Kaakinen, P. (2020). Chapter 3: Deductive Content Analysis. In: Kyngäs, H., Mikkonen, K., & Kääriäinen, M. (2020). *The Application of content analysis in nursing science.* Springer Nature: Chamonix.

Leipold, S., Feindt, P. H., Winkel, G., & Keller, R. (2019). Discourse analysis of environmental policy revisited: traditions, trends, perspectives. *Journal of Environmental Policy and Planning,* 21(5), 445-463.

Leiren, M., Aakre, S., Linnerud, K., Julstrud, T., Di Nucci, M., & Krug, M. (2020). Community acceptance of wind energy developments: experience from wind energy scarce regions in Europe. *Sustainability,* 12, 1754.

Lian, H. Positionality and Power: Reflexivity in negotiating the relationship between land-lost farmers and the local government in china. *International Journal of Qualitative Methods,* 18, 1-13.

Lidskog, R., & Elander, I. (2012). Ecological modernization in practice? The case of sustainable development in Sweden. *Journal of Environmental Policy & Planning,* 14(4), 411-427.

Lincoln, S., & Guba, E. (1985). *Naturalistic inquiry.* Thousand Oaks, CA: Sage.

Longhurst, R. (2010). Semi-structured Interviews and Focus Groups. In: Clifford, N., French, S., & Valentine, G. (2010) *Key methods in Geography*. London: SAGE Publications Ltd.

Machin, A. (2019). Changing the story? The discourse of ecological modernization in the European Union. *Environmental Politics,* 28(2), 208-227.

Matlock, A. S., & Lipsman, J. E. (2019). Mitigating environmental harm in urban planning an ecological perspective. *Journal of Environmental Planning and Management,* 63(3), 568-584*.*

McLaughlin, P. (2011). Climate change, adaptation, and vulnerability: reconceptualizing societal-environment interaction within a socially constructed adaptive landscape. *Organization & Environment,* 24(3), 269-291.

(i) McLaughlin, P. (2012). Ecological Modernization in Evolutionary perspective. *Organization & Environment,* 25(2), 178-196.

(ii) McLaughlin, P. (2012). The Second Darwinian Revolution: Steps Toward a New Evolutionary Environmental Sociology. *Nature and Culture,* 7(3), 231-258.

Meijer, A. (2020). Rechtbank laat zeven getuigen horen over 'windmolenterreur'. *RTV Drenthe.* May 12, 2020 [online]. Available at: https://www.rtvdrenthe.nl/nieuws/159826/Rechtbank-laat-zeven-getuigen-horen-over-windmolenterreur.

Memom, P., Kirk, N., & Selsky, J. (2011). Limits to Ecological Modernisation as a framework for sustainable fresh water governance. *Land Use Policy,* 28(3), 534-541.

Mendonça, M., Lacey, S., & Hvelplund, F. (2017). Stability, participation and transparency in renewable energy policy: Lessons from Denmark and the United States. *Policy and Society,* 27(4), 379-398.

Ministry of Infrastructure and the Envrionment (2012). *Structural vision on Infrastructure and Space; Nederlands concurrerend, bereikbaar, leefbaar en veilig.* Available at: https://www.rijksoverheid.nl/documenten/rapporten/2012/03/13/structuurvisie-infrastructuur-en-ruimte.

Ministry of Infrastructure and the Envrionment (2014). *Structural vision Wind Energy On shore.* Available at: https://www.rvo.nl/onderwerpen/duurzaam-ondernemen/duurzame-energie-

opwekken/windenergie-op-land/beleid-windenergie-op-land/nationaal-beleid.

Minnema, E. (2020). Metingen naar laagfrequent geluid rond Windpark N33 van start gegaan. *Dagblad van het Noorden.* March 11, 2020 [online]. Available at: https://www.rtvnoord.nl/nieuws/219788/Metingen-naar-laagfrequent-geluid-rond-Windpark-N33-van-start-gegaan.

Minsch, J., Goldblatt, D., Flüeler, T., & Spreng, D. (2012). Chapter 3: The Indispensable Role of Social Science in Energy Research. In: The Indispensable Role of Social Science in Energy Research *Tackling Long-Term Global Energy Problems*. 23-43. Environment & Policy 52. Springer: The Netherlands.

Mol, A. (1995). *The refinement of production*. PhD. University of Amsterdam.

Mol, A. (1996). Ecological modernisation and institutional reflexity. *Environmental Politics,* 5(2), 302-323.

Mol, A. (1997). Ecological modernization: industrial transformations and environmental reform. In: Redclift, M., & Woodgate, G. (1997). *The international handbook of environmental sociology.* 138-149. Edward Elgar: Glos.

Mol, A. (2000). The environment Movement in an era of Ecological Modernisation. *Geoforum*, 31(1), 45-56.

Mol, A. (2003). *Globalization and Environmental reform: The ecological modernization of the global economy*. MIT Press, Cambridge, Massachusetts.

Mol, A., & Jänicke, M. (2009). The origins and theoretical foundations of ecological modernisation theory. In: Mol, A., Sonneveld, D, & Spaargaren, G. (2009). *The Ecological Modernisation Reader.* Routledge: London and New York.

Mol, A., & Spaargaren, G. (2000). Ecological Modernization theory in debate: A review. In: Mol, A., & Sonnenfeld, D. A. (2000). *Ecological Modernization around the world: Perspectives and Critical Debates*. 17-49. Frank Cass: London.

Mol, A., Spaargaren, G., & Sonnenfeld, D. (2013). Ecological Modernization theory: Taking stock, moving forward. In: Lockie, S., Sonnenfeld, D., & Fisher, D. (2013). *Routledge handbook of Social and Environmental Change.* Routledge: London.

Murphy, J., & Gouldson, A. (2000). Environmental policy and industrial innovation: integrating environment and economy through ecological modernisation. *Geoforum,* 31, 33-44.

Netherlands Enterprise Agency (2018). *Monitor Wind op Land (2018).* Available at: https://www.rijksoverheid.nl/documenten/rapporten/2019/04/30/monitor-wind-op-land-2018.

Nielsen, T. D. (2014). The role of discourses in governing forests to combat climate change. *International Environmental Agreements*, 14, 265-280.

Pasqualetti, M. (2000). Morality, space and the power of wind-energy landscapes. *Geographical review*, 90 (3), 381-394.

Potter, C., & Tilzey, M. (2005). Agricultural policy discourses in the European post-Fordist transition: neoliberalism, neomercantilism and multifunctionality. *Progress in Human Geography*, 29(5), 581-600.

Rajkobal, P. (2014). Ecological modernisation and citizen engagement. *International Journal of Sociology and Social Policy,* 34(56), 302-316.

Rydin, Y. (1999). Can we talk ourselves into sustainability? The role of discourse in the environmental policy process. *Environmental Values*, 8, 467-84.

Seipel, O. (2000). Ecological Modernization as a theoretical device: Strengths and Weaknesses. *Journal of Environmental Policy & Planning,* 2, 287-302.

Smith, A., & Kern, F. (2007). The transition discourse in the ecological modernization of the Netherlands. *SPRU Working Paper Series,* 160, Science Political Research Unit, University of Sussex Business School.

Sociaal-Economische Raad (2013). *Energieakkoord voor duurzame groei.* Available at: https://www.ser.nl/nl/thema/energie-en-duurzaamheid/energieakkoord/wat.

Spaargaren, G., & Mol, A. (2009). Sociology, environment, and modernity: Ecological modernization as a theory of social change. In: Mol, A., Sonneveld, D, & Spaargaren, G. (2009). *The Ecological Modernisation Reader.* Routledge: London and New York.

Sporrel, L. (2019). GGD te voorzichtig met conclusies over windmolens. *Dagblad van het Noorden.* Oktober 23, 2019.

Stevenson, R. (2009). Discourse, power, and energy conflicts: understanding Welsh renewable energy planning policy. *Environment and Planning*, 27, 512-526.

Stevenson, N., Airley, D., & Miller, G. (2008). Tourism policy making: The policymakers' perspectives. *Annals of Tourism Research,* 35(3), 732-750.

Stikfort, B. Opinie: Groene stroom mag landschap niet schaden. *Dagblad van het Noorden.* May, 13, 2020 [online]. Available at: https://www.dvhn.nl/meningen/Opinie/Groene-stroom-mag-landschap-niet-schaden-25651036.html.

Suškevičs, M., Buchecker, M., Eiter, S., Stober, D., Kuvač, I., Jongejan, B., Martinat, S., & De Boer, C. (2018). Chapter 4.1: Public acceptance of renewable energy projects: a focus on wind energy. In: Roth, M., Eiter, S., Röhner, S., Kruse, A., Schmitz, S., Frantal, B., Centeri, C., Frolova, M., Buchecker, M., Stober, D., Karan, I., & Van Der Horst, D. (Ed). (2018). R*enewable energy and landscape quality,* 179–184. Jovis Verlag GmbH: Berlin.

Szarka, J. (2004). Wind power, discourse coalitions and climate change; breaking the stalemate? *European environment*, 14, 317-330.

Szarka, J. (2012). Climate Challenges, Ecological Modernization, and Technological Forcing: Policy Lessons from a Comparative US-EU Analysis. *Global Environmental Politics,* 12(2), 87-109.

Taylor, S. J., Bogdan, R., & DeVault, M. L. (2015). *Introduction to Qualitative Research Methods. A Guidebook and Resource*. John Wiley & Sons Incorporated: Hoboken, New Jersey.

The European Parliament & European Council. (2009). *On the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.* EU directive 2009/28/EC. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009L0028&from=EN.

The Open University (2020). *1.3 Decision making and policy making.* Accessed at: March 14, 2021. Available at: https://www.open.edu/openlearn/nature-

environment/introducing-environmental-decision-making/content-section-1.3.

Tight, M. (2019). Analysing documents. In: Tight, M. (2019). *Documentary Research in the Social Sciences,* 135-144. Sage Publications Ltd.: London.

Toke, D. (2002). Ecological Modernization and GM food. *Environmental Politics,* 11(3), 145-163.

(i) Toke, D. (2011). *Ecological modernisation and renewable energy.* Palgrave macmillan: Houndsmills, UK.

(ii) Toke, D. (2011). Ecological modernisation, social movements and renewable energy. *Environmental politics,* 20(1), 60-77.

Toke, D., & Strachan, P. (2006). Ecological Modernization and Wind Power in the UK. *European Environment*, 16, 155-166.

Toke, D., Breukers, S., & Wolsink, M. (2008). Wind power deployment outcomes: How can we account for differences? *Renewable and Sustainable Energy Reviews*, 12, 1129-1147.

TU Delft (2020). Veel geode om iets?! De waarde van conflict in de energietransitie. Inzichten uit het RESPONSE programma. Available at: https://www.tudelft.nl/tbm/onderzoek/projecten/response.

Upham, P., Oltra, C., & Boso, À. (2015). Towards a cross-paradigmatic framework of the social acceptance of energy systems. *Energy Resource & Social Science*, 8, 100–112.

Vaismoradi, M., Turunen, H., & Bondas, T. (2013). Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing and Health Sciences, 15, 398-405.*

Van Schie, M. (2019). Provincies in hun maag met windmolens: verzet groeit. *Elsevier Weekblad.* August, 27, 2019 [online]. Available at: https://www.elsevierweekblad.nl/nederland/achtergrond/2019/08/draagvlak-voor-windmolens-neemt-steeds-verder-af-705147/.

Vlek, C. (2000). Locatie-beslissingen over energievoorzieningen: verdamping van het NIMBY-cliché door verbetering van besluitvorming. Groningen centrum voor omgevings-en verkeerspsychologie, Rijksuniversiteit Groningen.

Warner, R. (2010). Ecological modernization theory: Towards a Critical Ecopolitics of Change. *Environmental politics,* 19(4), 538-556.

Warren, C., Lumsden, C., O'Dowd, S., & Richard V. (2005). 'Green on Green': Public Perceptions of Wind Power in Scotland and Ireland. *Journal of Environmental Planning and Management*, 48 (6), 853-875.

Warren, C., R., Cowell, R., Ellis, G., Strachan, P., & Szarka, J. (2012). Wind Power: Towards a Sustainable Energy Future? In: Szarka, J., Cowell, R., Ellis, G., Strachan, R, & Warren, C. (Ed). (2012). *Learning from Wind Power: Governance, Societal and Policy Perspectives on Sustainable Energy*. Palgrave Macmillan: New York.

Weale, A. (1992). *The new politics of pollution*. Manchester University Press: Manchester.
Wilson, B., & Millington, B. (2013). Sport, ecological modernization, and the environment. In: Andrews, D., & Carrington (2013). *A Companion to sport.* 129-142. Blackwell Publishing: Malden, MA.

Weber, R. (1990). *Basic Content Analysis.* Sage Publications: Newburry Park, CA.

Wet Openbaarheid van Bestuur (1991). Available at: https://wetten.overheid.nl/BWBR0005252/2018-07-28.

Wilson, B., & Millington, B. (2013). Sport, ecological modernization, and the environment. In: Andrews, D., & Carrington, B. (2013). *A companion to sport* (p. 129-142). Blackwell Publishing: Malden, MA.

Wolsink, M. (2006). Wind power implementation: the nature of public attitudes: equity and fairness instead of 'backyard motives. *Renewable and Sustainable Energy Review*, 11(6), 1188–1207.

Wolsink, M. (2007). Planning of renewables schemes. Deliberative and fair decision-making on landscape issues instead of reproachful accusations of non-cooperation. *Energy Policy*, 35, 2692-2704.

Wolsink, M., (2010). Near-shore wind power—Protected seascapes, environmentalists' attitudes, and the technocratic planning perspective. *Land Use Policy*, 27, 195-203.

Wolsink, M. (2012). Wind Power: Basic Challenge Concerning Social Acceptance. In: Meyers, R. A. (Ed.). (2012). Encyclopedia of Sustainability Science and Technology, 17(1), 12218-12254. Springer-Verlag: New York.

Wolsink, M. (2018). Social acceptance revisited: gaps, questionable trends, and auspicious perspective. *Energy Research & Social Science*, 46, 287-295.

Wüstenhagen, R., Wolsink, M., & Bürer, M. (2007). Social acceptance of renewable energy innovation: An introduction to the concept. *Energy Policy*, 35, 2683-2691.

Yin, R. (1981). The case study crisis: Some answers. *Administrative Science Quarterly*, 26(1), 58-65.

Yin, R. (2003). *Case study research, design and methods (3rd ed., vol. 5)*. Sage: Thousand Oaks.

Yliskylä-Peuralahti, J. (2017). Ecological Modernization and the multi-scaled governance of sustainability in maritime transport. *Geografiska Annaler: Series B, Human Geography*, 99(1), 42-58.

Zoellner, J., Schweizer-Ries, P., & Wemheuer, C. (2008). Public acceptance of renewable energies: Results from case studies in Germany. *Energy Policy*, 36, 4136-4141.

Appendices

Appendix A: Limited literature review

Author	EM themes
Mol (1995)	1. Institutional clusters 2. Science and technology 3. State and market
Berger et al. (2001)	1. EM as technological adjustment 2. EM as a belief system 3. EM as policy discourse 4. EM and environmental policy making
Mol (2003)	1. Technology and science 2. Economy and market 3. Transformed role of the state 4. New environmental movements 5. New discursive practices
Howes et al. (2010)	1. Technological innovation 2. Engaging with economic imperatives 3. Political and institutional change 4. Transforming the role of social movements 5. Discursive change
Memon et al. (2011)	1. Marketization of resources 2. Reliance on science and technology
Glynn et al. (2017)	1. Innovation and technology 2. The state 3. Market 4. Civil society 5. Ecological consciousness

Appendix B: Examples of weak vs. strong EM

'Weak' EM	'Strong' EM
Economistic	Ecological
Technological	Institutional/systematic
Instrumental	Communicative
Technocratic/neo-corporatist	Deliberative democratic/open
National	International
Unitary	Diversifying

Source: Christoff (1996).

Theme	Weak EM	Strong EM
View of the environment	Economist and utilitarian	Ecological
Role of the state	Market facilitation, information dissemination, minimum state intervention	Substantial state intervention, institutional restructuring, reforms to economic and regulatory policies
Policy approach	Instrumental	Communicative
Decision-making style	Technocratic/closed decision-making by economic and political elites	Deliberative democracy/open, with participation and involvement
Scale of focus	National focus on developed nations	International
EM strategy	Hegemonic	Diversifying, multiple possibilities with EM providing orientation

Source: Howes et al. (2010).

Appendix C: Factors relevant for shaping community acceptance (by *Leiren et al., 2020*)

Acceptance factor category	Acceptance factor
Technical characteristics of a project	The size of modern projects (e.g., number of turbines and turbine height); The visibility of wind turbines; The distance of wind turbines from residential areas; Grid infrastructure improvement; Other infrastructure improvement (e.g., transport and communications).
Impacts on environment	Physical environment (e.g., landscape, protected areas, increased traffic); Biodiversity and wildlife; GHG emissions.
Impacts on economy	Tourism sector; Agricultural sector; Local profits and income (e.g., jobs, tax, local added value generation); Individuals' economy (e.g., electricity prices, landowners' income, property value); Distribution of benefits and costs between actors within the community; Distribution of benefits and costs between communities hosting wind power and other communities; The degree of local ownership of the plants.
Impacts on society	Health and well-being (e.g., electromagnetic frequencies, shadow flicker, noise); Quality of life (e.g., recreational opportunities).
Context	*Market*: Regional (or national) share of renewables in the electricity sector; Energy demand (e.g., exporter/importer of electricity, security of supply). *Planning and permitting process:* Opportunities for informal/formal participation and consultation in the planning and permitting process; Information about projects and the transparency of the permitting process' Trust in processes; Trust in information. *Governance and regulatory framework:* National/regional/local targets; plans; taxations; financial support schemes *Trust in key actors*: Trust in national decision-makers; Trust in regional decision-makers; Trust in investor.
Individual characteristics	Socio-cultural values (e.g., equal rights, entrepreneurialism); Sense of place, self-identity, place attachment; Discourse on wind energy in the public sphere/media; Political climate for wind energy development.

Source: *Leiren et al. (2020).*

Appendix D: Dataset

Formal documents:

1. **Energy Agreement (EA)**; Energieakkoord. September 6, 2013. Available at: https://www.ser.nl/nl/thema/energie-en-duurzaamheid/energieakkoord/wat.
2. **Structural Vision Infrastructure and Space (SVIS)**; Structuurvisie Infrastructuur en Ruimte. March 13, 2012. Available at: https://www.rijksoverheid.nl/documenten/rapporten/2012/03/13/structuurvisie-infrastructuur-en-ruimte.
3. **Structural Vision Onshore Wind Energy (SVOWE);** Structuurvisie Windenergie op Land. March 31, 2014. Available at: https://www.rijksoverheid.nl/documenten/rapporten/2014/03/31/bijlage-1-structuurvisie-windenergie-op-land.
   a. **Environmental Impact Assessment for the SVOWE (EIA-SVOWE**); Plan-MER Structuurvisie Windenergie op land. November, 2013. Available at: https://www.commissiemer.nl/docs/mer/p26/p2636/2636-131planmer_aanv.pdf.
4. **Spatial Perspective Onshore Wind (SPOW);** Ruimtelijk Perspectief Wind op Land. January 4, 2010. Available at: https://vng.nl/files/vng/10_02_16_presentatie_concept_ruimtelijk_perspectief_wind_energie_op_land_flevoland.pdf.
5. **National Plan for Wind Energy**; Nationaal plan van aanpak Windenergie. January 30, 2008. Available at: https://www.chriswestraconsulting.nl/site-images/Nationaal-plan-van-aanpak-windenergie.pdf.
6. **Design National Integration Plan;** Ontwerp nationaal inpassingsplan (N33). September 2, 2016. Available at: https://www.rvo.nl/onderwerpen/bureau-energieprojecten/lopende-projecten/windparken/windpark-n33/fase-1.
7. **National Integration Plan (NIP)**; Nationaal Inpassingsplan (N33). February 17, 2017. Available at: https://www.rvo.nl/onderwerpen/bureau-energieprojecten/lopende-projecten/windparken/windpark-n33/fase-1.
   a. **Environmental Impact assessment for the NIP (EIA-NIP)**; Plan-MER Inpassingsplan (N33). December 22, 2016. Available at: https://commissiemer.nl/adviezen/2589.
   b. **Views Phase 1 (N33)**: Zienswijzen (167) fase 1 (N33). September 29, 2016. Available at: https://www.rvo.nl/onderwerpen/bureau-energieprojecten/lopende-projecten/windparken/windpark-n33/fase-1.
   c. **Formal response to submitted views;** De Reactiebundels fase 1 (N33). September 29, 2016. Available at: https://www.rvo.nl/onderwerpen/bureau-energieprojecten/lopende-projecten/windparken/windpark-n33/fase-1.
   d. **General responses to views**; Nota van Antwoorden (N33). September 29, 2016. Available at: https://www.rvo.nl/onderwerpen/bureau-energieprojecten/lopende-projecten/windparken/windpark-n33/fase-1.
8. **Judicial verdict from Council of the State;** Uitspraak Raad van State 201703385/1/R3. May 29, 2019. Available at: https://www.raadvanstate.nl/@115634/201703385-1-r3/.

9. **Provincial Surroundings Plan (POP);** Provinciaal omgevingsplan Groningen 2009-2013. August 15, 2008. Available at: https://www.crow.nl/kennis/bibliotheek-verkeer-en-vervoer/beleidsdocumenten/provinciaal-omgevingsplan-groningen-2009-2013-voor.

10. **Scope and level-of-detail Windfarm N33 (SL)**; Reikwijdte en detailniveau windpark N33. June 3, 2012. Available at: https://www.rvo.nl/sites/default/files/2017/02/Definitieve%20vaststelling%20Windpark-N33%20v2.pdf.

   a. **Additional note to SL**; Aanvullende notitie Reikwijdte en detailniveau windpark N33. April 10, 2015. Available at: https://www.rvo.nl/sites/default/files/2015/05/20150410%20NRD%20WP%20N33%20def%20concept_07052015.pdf.

11. **Monitor Onshore Wind Energy (MWL);** Monitor Wind Energie op Land (2014 – 2019). Available at: https://www.rvo.nl/onderwerpen/duurzaam-ondernemen/duurzame-energie-opwekken/windenergie-op-land.

12. **ECN**; ECN-N--12-011; Energy Research Centre of the Netherlands (ECN); idem. April 23, 2012. Available at: https://repository.tno.nl//islandora/object/uuid:312a24d7-cbce-4ba2-be70-44254b655b4e.

Informal documents

1. Dagblad van het Noorden (DvhN); 178 articles.
2. Noord Rotterdamse Courant (NRC); 8 articles.
   For both newspapers a full list of articles is available at request.

3. www.TegenwindN33.nl
4. www.WindparkN33.nl
   For both websites the datafile consisting the copied text is available at request.

Semi-structured Interviews

INTVW 1: Local journalist
INTVW 2: Adversary of Windfarm N33

As both interviews were conducted anonymously, the researcher cannot and will not provide any personal information regarding their identity besides the above description. Also, the transcribed interviews will not be openly available.

Introduction
The interview starts with a brief informal personal introduction followed by a broad introduction into the research topic and goal without explicitly referring to the theoretical propositions regarding EM and community acceptance. Also, some practicalities are discussed (i.e.., time; *15 min*, questions allowed, language, etc.). Subsequently, the interviewee will be – explicitly – made aware of the ethical considerations of this research. These are: 1) The interviewee is free to stop and answer at their own discretion, 2) no data will be included into the research without their consent (see consent form), 3) they are allowed to withdraw their interview from the research at any time, 4) the interviewee is asked whether it is allowed to record the interview for later analysis, 5) the interviewee is offered a transcribed version of the interview, 6) the researcher explains the use of the interview (only this research), and 6) the researcher will mention that, if allowed, their data will only be included anonymously. Afterwards the interviewee is asked if he/she might have some questions at this stage (both related to the topic or ethical considerations).

Interview
The interview has been divided in several logically successive topics. Each topic and the related questions are explained and listed below. Also, depended on the provided answers, follow-up questions will be asked. The main aim is to allow the interviewee to tell their story without too much interference and guidance from the researcher. Lastly, all interview will be conducted in Dutch as this is the native language of the interviewees.

1. General story-line:
In an effort to verify the current story-line and description of events and considerations in this thesis, the researcher will ask the following questions:

- Can you – in a general sense – chronologically describe the policy-making process of windfarm N33 from your perspective? Or Can you talk me through the Windfarm N33 project from your perspective?
  Hint: think of for example decisions and their consequences in terms of how they were perceived and valued. Also, what was your role, side, influence, etc.
- How did you value the policy-making of windfarm N33 in general?
  Hint: general shortcomings or successes.

2. Community acceptance:
- What do you think of acceptance in the N33 project?
- Depended on the answer; why do you think community acceptance is so high/medium/low for this specific project?
- What went right and wrong in the policy-making of Windfarm N33 for community acceptance?
- What 'acceptance factors' did the policy-makers and the developers focus on, what not, and how was this perceived and evaluated?
  Hint: In other words, were your concerns in line with the concerns or considerations of the policy-makers/developers, if so, if not, what and why?

Hint: what factors did you value regarding community acceptance? When would you have accepted the project?

3. Ecological Modernization:
- From your perspective, what information did the policy-makers and developers value in terms of making their decisions?
  Hint: Based on what kind of arguments
- Did you feel like you were able to properly explain and express your concerns to the policy-makers and developers?
  Hint: Did you speak the same language (figure of speech)?

4. Potential practical points of discussion (only when mentioned by interviewee!):
- The attributed value and use of the EIA.
- Health concerns.

End
Ask the interviewee whether he has anything to add; can be related to the research or not. Thank the interviewee and re-emphasize the ethical considerations. Ask whether he/she still has some questions? At this point it is allowed to provide a more in-depth explanation of the research – if requested.

Example of (informed) consent form (NL):

Beste deelnemer,

Hartelijk dank voor uw deelname aan dit interview als onderdeel van mijn onderzoek m.b.t. het windpark N33 voor de MSc Environmental and Infrastructure Planning aan de Rijksuniversiteit Gronignen. Uw tijd en moeite worden ontzettend gewaardeerd en zullen zeker bijdragen aan het eindresultaat van mijn scriptie. Echter voordat ik uw interview kan meenemen in de analyse is het belangrijk dat u op de hoogte bent <u>en</u> akkoord gaat met het volgende:

- U bent zich ervan bewust dat u deelneemt aan een onderzoek.
- Uw deelname en informatie is volledig anoniem.
- Het feit dat de onderzoeker voor analyse doeleinden een opname van het gesprek (heeft) (ge-)maakt. Deze zal uitsluitend door de onderzoeker zelf worden beluisterd en zal na afronding van de scriptie uiteraard netjes worden verwijderd.
- De door u aangeleverde informatie kan worden gebruikt voor mijn scriptie. Bijvoorbeeld in de vorm van een (*anoniem!*) citaat.
- Uw informatie (het interview) kan u ten alle tijden terugvragen en/of verzoeken dat het niet langer wordt meegenomen in het onderzoek.
- Uw informatie zal *alleen* gebruikt worden voor dit onderzoek en zal onder geen beding worden gedeeld met derden.

Ondergetekende verklaren dit formulier gelezen en begrepen te hebben.

Naam:
Datum:

Handtekening:

_____

Important note: due to the pandemic all interviews were conducted online. Therefore, the informed consent form was read out and agreed upon verbally.

Appendix G: Data analysis matrices

The discursive tendencies of ecological modernization

Main categories	Definitions	Coding rules *(properties)*	Anchor examples
Business Oriented	The text showcases clear economic and/or business-oriented language.	Inclusion and mentioning of, or relying on private actors; inclusion of business language in terms of explicitly mentioning monetary benefits and costs; references to economic win-win scenarios; stressing the importance of the economy in the debate; emphasis on the relevance of business or economic interests; and including and referring to economically oriented documents.	Translation: "*The spatial, societal, and landscape interests that should have been decisive in the policy-making/decision-making have been, from the start, less important than the financial interests.*" Original: "*De ruimtelijke, maatschappelijke, en landschappelijke belangen die juist doorslaggevend hadden moeten zijn en in de afweging hadden moeten worden betrokken, zijn van meet af aan ondergeschikt geweest aan deze financiële belangen.*" (*View 0027*).
Scientistic	The text includes arguments that are based on (mainly) quantitative knowledge and research.	Statements that refer to numerical data, numbers, or set absolute boundaries; inclusion of scientific actors and organizations; references to scientifically oriented reports or publications.	Translation: "*An unambiguous relationship between health and wind turbines has not yet been scientifically proven.*" Original: "*Een eenduidige relatie tussen gezondheid en windturbines is vooralsnog niet wetenschappelijk vastgesteld* (*NIP, p. 81*).
Technocentric	The text mentions the importance of (large-scale) technological innovation itself and the accompanied benefits.	Technologies are presented as a (important) solution for environmental problems or other concerns; talk of efficiencies and resource management; alternatives for technological interventions are dismissed.	Translation*: "A growth to more wind energy production onshore (…) is only possible via innovation, (…)."* Original*: "Een doorgroei naar meer productie door windenergie op land (…) is dan ook slechts mogelijk via de weg van innovatie (…)." (EA, p. 68)*.

Universalism	The (sustainable energy) issue is presented as a universal issue in the text.	Texts related to energy sustainability refer to the wider region of the Netherlands; relevance arguments – why the project needs to be done – are made on a larger scale than the eventual implications of the project (i.e., the Netherlands as a whole vs. the actual surrounding area of the N33 project).	Translations: *"The intention (read: to construct windfarm N33) is aimed at the realization of a windfarm to contribute to the sustainable energy goals of the Netherlands.".* Original: *"Het voornemen is gericht op het realiseren van een windpark om bij te dragen aan de doelstellingen om in Nederland meer duurzame energie te produceren."* (NIP, p. 4).

Community acceptance factors

Main categories	Definitions	Coding rules *(properties)*	Anchor examples
Technical characteristics of project	Text refers to the physical attributes and characteristics of a wind power project (i.e., size, placement, turbine model etc.).	Mentioning of the size of modern projects (e.g., number of turbines and turbine height); the visibility of wind turbines; the distance of wind turbines from residential areas; other physical grid infrastructure improvement; other infrastructure improvement (e.g., transport and communications).	Translation: *"Hinderance as the result of noise, lights, and shadows can most likely not be excluded."* Original: *"Overlast zoals geluid, licht en slagschaduw zijn zeer waarschijnlijk niet uit te sluiten."* (View 0026).
Impacts on Environment	The text includes references to the project impacts on the physical environment.	Mentioning of Physical environment (e.g., landscape, protected areas, increased traffic); biodiversity and wildlife; greenhouse gas emissions.	Translation: *"A cluster of wind turbines this size will probably have significant consequences for multiple bird species."* Original: *"Een cluster van windturbines in de huidige omvang zal zeer negatieve gevolgen voor diverse vogelsoorten hebben."* (View, 0021).
Impacts on Economy	Financial consequences of a wind power project for economic interests.	Mentioning of, or impacts on the tourism, agriculture, local profits and income (e.g., jobs, tax; local added economic value generation); individuals' economy (e.g., electricity prices, landowners' income, property value); distribution of benefits and costs	Translation: *"We expect that our houses will become worth less."* Original: *"Wij verwachten dat de onroerendgoedprijzen omlaag zullen gaan."* (View 0006).

		between actors within the community; distribution of benefits and costs between communities hosting wind power and other communities; the degree of local (financial) ownership of the project.	
Context	Within the text, contextual factors relate to measures or factors that shape how projects are perceived.	Mentioning of or reference is made to regional (or national) share of renewables in the electricity sector; Energy demand (e.g., exporter/importer of electricity, security of supply); opportunities for informal/formal participation and consultation in the planning and permitting process; information about projects and the transparency of the permitting process; trust in processes; trust in information; inclusion of national/regional/local targets, plans, and policies; taxation benefits; financial support schemes; trust in national decision-makers; trust in regional/local decision-makers; trust in investors.	Translation: "*No information has been provided to inhabitants living or working in-between both windfarms.*" Original: "*Er is helemaal geen informatie verstrekt aan de bewoners die tussen beide windparken wonen of er hun bedrijven hebben.*" (*View, 0008*).
Individual characteristics	Textual references to relevant individual aspects in terms of how a project is experienced at a personal level.	Text that relates to socio-cultural values (e.g., equal rights, entrepreneurialism); sense of place, self-identity, place attachment; discourse (i.e., the '*powerless*' use of the word discourse) on wind energy in the public sphere/media; the political climate for wind energy development.	"*What I think is horrible is that there have been 'fights' between neighbors*." Original: "*Ik vind het erg dat er ruzies zijn geweest tussen buren.*" (*View, 0011*).

Source: based on Leiren et al. (2020)

Appendix H: Trustworthiness documents

Intercoder agreement

Legend:
Applied: number of times the code has been applied
Units: number of units* the code has been applied
Total units: total number of units* across all selected documents
Tot coverage: % coverage within the selected documents

Code	Coder	Applied	Units	Total units	Total coverage
CA Context	Philip	11	3100	25121	12,34%
	Peer student	11	3248	25121	12,93%
CA Economy	Philip	8	1527	25121	6,08%
	Peer student	8	1761	25121	7,01%
CA Environment	Philip	1	119	25121	0,47%
	Peer student	3	428	25121	1,70%
CA Individual	Philip	4	397	25121	1,58%
	Peer student	3	543	25121	2,16%
CA Society	Philip	4	244	25121	0,97%
	Peer student	5	553	25121	2,20%
CA Technical	Philip	14	2503	25121	9,96%
	Peer student	15	5924	25121	23,58%

Kippendorff's Alpha: 0,679
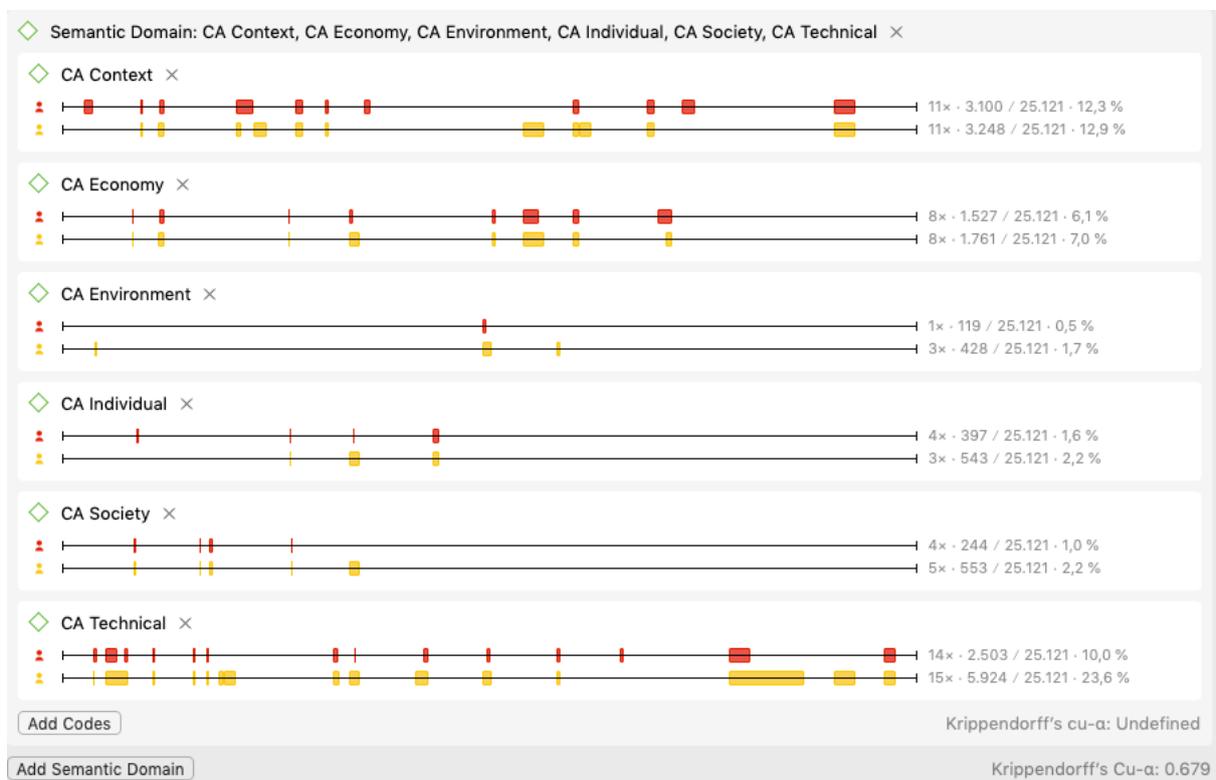
Calculated using Atlas.ti.

Trustworthiness checklist

Phase of the content analysis study	Questions to check	Remark supervisor:
Preparation phase	Data collection method: - How do I collect the most suitable data for my content analysis? - Is this method the best available to answer the target research question? Should I use either descriptive or semi-structured questions? Self-awareness: what are my skills as a researcher? - How do I pre-test my data collection method? Sampling strategy: - What is the best sampling method for my study? - Who are the best informants for my study? - What criteria should be used to select the participants? Is my sample appropriate? - Is my data well saturated? Selecting the unit of analysis: - What is the unit of analysis? - Is the unit of analysis too narrow or too broad?	
Organization phase	Categorization and abstraction: - How should the concepts or categories be created? Is there still too many concepts? - Is there any overlap between categories? Interpretation: - What is the degree of interpretation in the analysis? - How do I ensure that the data accurately represent the information that the participants provided? Representativeness: - How to I check the trustworthiness of the analysis process? How do I check the representativeness of the data as a whole?	

Reporting phase	Reporting results: - Are the results reported systematically and logically? - How are connections between the data and results reported? - Is the content and structure of concepts presented in a clear and understandable way? - Can the reader evaluate the transferability of the results (are the data, sampling method, and participants described in a detailed manner)? - Are quotations used systematically? - How well do the categories cover the data? - Are there similarities within and differences between categories? Is scientific language used to convey the results? Reporting analysis process: - Is there a full description of the analysis process? - Is the trustworthiness of the content analysis discussed based on some criteria?	

Source: Elo et al. (2014).

Appendix I: Translations of used quotes

Table 4: Exemplary quotes regarding siting decisions (*in Dutch***)**

Exemplary quotes
"(…), maar als je zo informatie achterhoudt, neem je burgers niet serieus" (*Zondag, L., board member TegenwindN33; in De Veer, 2014i*).
"Boeren die eigenaar van de grond zijn, hebben het opstalrecht. Ze krijgen van windparkexploitanten 30 tot 40 duizend euro per jaar voor iedere windmolen van 3 megawatt. (…). Ze pakken hun kansen, maar het geeft scheve verhoudingen. Lusten en lasten moeten beter worden verdeeld." (*Moorlag, W. deputy for the province of Groningen; in De Veer, 2014ii*).
"Met Windpark N33 zet RWE de sociale verhoudingen in het gebied, dat zich kenmerkt door een gevoelige historie tussen boeren en arbeiders op scherp." (*De Veer, 2016i; DvhN*).
"(…) de energie slurpende en verspillende Randstad die al decennia op Gronings aardgas parasiteert?" (*Stikfort, 2019i*).

Source: author

Table 6: Exemplary quotes regarding financial compensation and participation (*in Dutch***)**

Exemplary quotes
"Wij laten ons niet omkopen en blijven strijden tegen een gedrocht dat ons dorp vernielt!" (*Hendriks, J., member of TegenwindN33; in De Veer, 2017; DvhN*).
"Ze wil immers 'graag van de inwoners horen onder welke voorwaarden zij akkoord gaan met windparken." (*Stikfort, 2019ii; DvhN*).
"Nogal wat direct betrokkenen noemen de vergoedingen uit de zogeheten Gebiedsfondsen 'een lachertje'. Zij hebben het over smeergeld." (*Mulder, 2017; DvhN*).
"De overheid is de architect die bepaalt waar windparken komen en onder welke condities dit gebeurt. Ik geloof in een scheiding van verantwoordelijkheden tussen de uitvoerder, dat zijn wij, en degene die het beleid bepaalt. (…). Wij bepalen niet de regels." (*Terium, P., employee RWE/Essent; in De Veer, 2016ii; DvhN*).

Source: author