Determining Transformative Leaders in the Energy Transition: a Value-Based Approach to Leadership

Abstract

The transition from fossil fuels towards renewable forms of energy continues to be one of the greatest challenges of current societies. In many countries the energy transition is not moving at a sufficient pace. It poses an adaptive rather than a technical challenge, implying that individual behaviour needs to be changed accordingly. The role of leadership in the energy transition is therefore important to analyze, as leaders possess a greater capacity to bring about change. Specifically, transformative leaders are required, who transform society and aim for societal rather than organizational goals. Additionally, a value-based approach to leadership is used, which implies that we incorporate the subjective motives, values and visions of leaders. Through the four-quadrant model of leadership, the current study aims to analyze leadership in the context of the energy transition. Based on this model, a series of interviews have been conducted with frontrunners in the energy transition to analyze the motives of leaders and the styles of leadership. The results suggest that leaders feel stimulated to exercise their leadership in most respects. However, the institutional context in the Netherlands, in particular the polder model, serves as an important impeding factor. Recommendations are proposed as to how such barriers can be overcome. Additionally, implications for our role as planners in the energy transition are proposed.

Key words: energy transition, transformative leadership, value-based leadership, the Netherlands, polder model

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1. Introduction

1.1. Background and problem definition

The transition from fossil fuels towards renewable forms of energy continues to be one of the greatest challenges of current societies. Particularly in the Netherlands the need for alternative means of energy production is increasing (Kooij et al., 2018). Up to now the Netherlands relied heavily on natural gas, but due to externalities such as the emissions it creates, but also the earthquakes it provokes, a shift towards renewables seems inevitable. Following the goals of the Paris Agreement, the Netherlands aims to have a 14% share of renewable energy by 2020. Given that this share was only 6.6% in 2017 (CBS, 2018), this goal will very likely not be reached. To reach the 27% needed by 2030, the Netherlands still has a very long road to travel. The Netherlands is not an exception; many past and current international efforts are insufficient to avoid dangerous climate change (Osberghaus et al., 2010). The energy transition, in essence a process of changing from a deficient to a desired state, requires much more than we are currently doing. A transition is defined as a structural change in the way a societal system operates. Different developments and events of different scale levels from different domains positively reinforce each other during a transition (Rotmans et al., 2000). It is therefore a process of the co-evolution of markets, networks, institutions, technologies, policies, but also individual behaviour. In this research it is argued that a focus on the behavioural aspect is necessary to provoke the energy transition.

The fact that we are currently not moving at a sufficient pace regarding the shift towards renewable forms of energy poses a severe problem. The root of this problem does not lie in the unavailability of renewable energy technologies. In other words, it is not a technical problem. Rather, the problem originates from our inadequate behaviour, implying an adaptive problem. The energy transition requires fundamental changes in people's behaviour, not only as consumers but also as citizens as they are key to support sustainable policies (Steg et al., 2018). The human factor plays an important role in the energy transition. The behavioural change that is needed also implies the need for leadership which at its most basic level is a process of social influence (May, 2015). Leaders exert a disproportionally large influence on society, and therefore have a greater capacity to induce the energy transition. Specifically, transformative leaders are required who have the ability to transform society and the ability to change their followers' deepest motivations, their values. If leaders understand the drivers of their followers' behaviour, they are enabled to provoke the change we need in the shift towards renewables.

1.2. Societal and scientific relevance

It goes without saying that the shift towards renewables has societal relevance. If we as a society continue to rely on fossil fuels, we will damage the environment in such a way that it will threaten our daily life. The urgency of the transition is well-known, but there is a tendency to underestimate the urgency to act. Partly, such behavioural inertia can be explained by our limited knowledge on what is required of each and every one of us for the energy transition to diffuse. It is therefore important to analyze the drivers of our behaviour and to analyze those actors who have the potential to instigate behavioural change. Therefore, it is specifically relevant to study leadership in the energy transition. Additionally, it is important to analyze how leaders are able to 'make it happen'. What styles of leadership do these leaders use and which are most effective? The role that individual leaders can have in the energy transition should not be underestimated. Long-term commitment towards sustainable development resides within an individual's choice (Horlings et al., 2018).

Furthermore, it is relevant to study the motives of leaders. Do these leaders act on moralist or Kantian motives, or do they focus solely on the *homo economicus*' urge to free ride (Schwerhoff et al., 2018). It is essential that the values that leaders possess are in line with what the energy transition requires them to be. Values and worldviews are very influential as to how people understand and interact with the world around them (Schlitz et al., 2010). Values are therefore essential as to whether sustainable development remains a dream or actually can be brought into practice (Brown, 2005). The current study places values at centre stage, as a change in values can guide the behavioural change we need in the energy transition. Particularly, the role of leadership in influencing values is investigated. Consequently, academia in general are enabled to have more insight into the levers of change that guide the shift towards renewable energy. A focus on leadership is necessary to tackle the adaptive challenge that the energy transition poses.

1.3. Research objectives

Whilst much literature has elaborated on the role between leadership and climate change or sustainability in general, the direct link to the energy transition remains to be overseen. The current study aims to do just that, to determine transformative leaders in the energy transition. In doing so, the primary aim is not merely to point out certain leaders, but rather the aim of this study is to determine what makes these individuals leaders and in what way they are able to influence society as a whole. The primary research question can therefore be summarized as follows:

How are transformative leaders able to guide society in the energy transition, and in what way are they constrained to exercise their leadership?

On top of that, the current study has several secondary research objectives. First, the study aims to analyze the motives behind these leaders, in particular questioning whether they have greater normative aim to transform society. Second, the leaders' visions on the course of the energy transition in the near future will be studied. Specific attention will be paid to the values that underlie these visions. Third, the types of leadership are analyzed in an effort to understand what specific roles these leaders undertake and how these roles contribute to an effective energy transition.

1.4. Outline

Having established the research objectives, the next chapter will provide the theoretical framework. First, it will be explained why the energy transition should be seen as an adaptive challenge. Consequently, the important role of leadership in the energy transition will be concretized. Next, a distinction will be made between types of leadership. In this research, specifically the focus will be on transformative leadership and value-based leadership. Consequently the four-quadrant model of leadership by Horlings (2012) is proposed. In the following chapter the methodology is described. In trying to determine transformative leaders in the energy transition the current study takes the form of a series of interviews in which a number of frontrunners in the transition are selected. These interviews aim to analyze the motives of these leaders, their visions, their type of leadership and the way in which these frontrunners are able to 'make it happen'. Consequently in the chapter that follows the results are discussed. Finally, a concluding chapter is provided in order to determine transformative leaders in which their motives, actions, and types are summarized. Furthermore, recommendations are given as to how we as planners can enable leadership in the energytransition.

2. Theoretical framework

2.1. The energy transition as an adaptive challenge

The energy transition, and climate change in general, is more than just a technical challenge. Much more, it is an adaptive challenge. Viewing the energy transition merely as a technical challenge implies that the problem at hand is practical, which can be solved through expertise, innovation, know-how, skills and resources (Wise et al., 2014). Working with standard tools and approaches, the emphasis here is on doing things better and more

effectively (O'Brien, Selboe, 2015). Examples here include improving renewable energy technologies, but also include e.g. improvements in institutional arrangements. According to the technical view, climate change in general is a challenge between nature and mankind. The climate is treated as an external condition to which mankind needs to adapt (Hulme, 2008). However, this view seems too narrow. Conceiving of the energy transition as an adaptive challenge broadens the scope. Here, it is not merely about the relationship between nature and mankind. Rather the emphasis is on the relationships between people and how they interact with each other. It starts with assertion that climate change calls for a deeper transformation, most notably regarding the idea that humans are responsible for and have a substantial effect on the climate (O'Brien, Selboe, 2015). Climate systems are not influenced by external factors alone, but also by human activities and decisions. Therefore, the issue is much deeper, relating to individual and collective beliefs, values, and worldviews, implying a challenge on a personal level. Additionally, these issues involve questions of interests, identities and power, thereby also implying a challenge on a political level (O'Brien, 2015).

The energy transition surely is an adaptive challenge. It involves assumptions and beliefs of individuals, but it also necessitates an understanding of the change that is needed (Heifetz et al., 2009) in the energy transition. Such a challenge implies conflicting conditions and situations that have no straightforward solution. These challenges cannot be solved by experts alone. The energy transition simply is too complex, implying a need to involve each and every level of society. Heifetz et al. (2009) describe five characteristics that define adaptive challenges. First, there exists a gap between reality and what is desired. Related to this, as a second characteristic, adaptive challenges occur when current responses are inadequate. Given that the renewable energy targets are far from being reached, there indeed exists a gap, which is partly explained by our inadequate responses. Third, adaptive challenges are complex. Climate change in general is a hyper-complex problem, since there is dynamic complexity (cause and effect are distant in space and time), social complexity (many conflicting interests), and human complexity (different perceptions on the problem at hand) (O'Brien, Selboe, 2015). Fourth and fifth, adaptive challenges require the involvement of many new stakeholders, and involve long-term issues that cannot be addressed by simple solutions. The challenge of the energy transition seems to meet all these characteristics. Being an adaptive challenge, it is therefore essential to study individual beliefs, values and worldviews. Worldviews in particular are significant, because they define human perceptions and influence how people understand and interact with the world around them (Schlitz et al., 2010). These worldviews must be in line with what the energy transition requires them to be.

The current challenge of the energy transition cannot be solved by our current behaviour. For the transition to occur, significant changes in people's habits, status, role, identity and way of thinking is required (May, 2015). This shift requires not only

fundamental changes in people's behaviour as consumers, but also as citizens, as they must support sustainable policies (Steg et al., 2018). Individuals can have a severe effect on the energy transition. Long-term commitment towards sustainable development resides within an individual's choice (Horlings et al., 2018). The human factor plays an important role in sustainable development. Though research indicates that getting people to change their behavior is difficult, there is evidence that individuals often change their mind-sets over a lifetime (Kegan and Lahey, 2009). However, to encourage behavioral change for the energy transition, important individual and contextual factors of relevant behaviors must be targeted, and the costs and barriers for action must be lowered (Steg et al., 2018). Such behavior not only depends on economic self-interest, but also on environmental considerations, status, and social norms. Approaches in the energy transition are most effective when they are tailored to the motivations an constraints of individuals (Steg et al., 2018). Though behavioral change is difficult to accomplish, human actors have the potential transformative agency to shape according to their values, ideas and needs (Horlings, 2017).

2.2. Leadership in the energy transition

Since the energy transition requires behavioural change, the link to theories of leadership is essential. Leadership should be a central factor in climate change adaptation (Meijerink, Stiller, 2013). Though much literature has focused on the link between sustainability and leadership, and also on the more specific link to climate change, the direct link to the energy transition remains to be overseen. The aim of this study is to do just that. In order to do so, first, leadership needs to be defined. Leadership is a process of social influence, in which leaders create meaning, define the problem at hand and consequently define the adequate actions that have to be undertaken (May, 2015). Leadership is much broader than the relationship between leader and follower. It also moves beyond the traditional notion of a charismatic leader taking up a formal position and exerting power (Horlings, 2012). Rather than conceiving of leadership as the behaviour of one individual, some theories increasingly see leadership as an emergent property of interacting agents (Meijerink, Stiller, 2013). In such interactions, followership, the ability to understand and acknowledge leaders, can be as important as leadership itself (Collinson, 2006). Therefore, for leadership to be effective, there must be the recognition that there are individuals who need to be influenced and need to be supportive of the actions proposed by the leader (May, 2015).

Leaders must acknowledge and come up with myriad ways to tackle the adaptive challenge that the energy transition poses. Business leaders must move away from the traditional model based on mere economic interests. A cultural shift is needed to bring about the desired changes, implying the need for a fundamental shift in the dominant business virtues (Throop, Mayberry, 2017). For businesses to flourish, leaders will need to behave in

new ways consistent with a finite, complex, uncertain, changing, collaborative, connected, and caring world. But leaders are not only found in business, they are present in every segment of our society. A leader is anyone who takes her responsibility for sustainable development (Horlings, 2012). Leaders are people who have a disproportionately large influence on their environment, and therefore have greater potential to change it (Vinkhuyzen, Karlsson-Vinkhuyzen, 2014). Consequently, although the literature on socio-technical transitions seems to omit the role of individuals as leaders (Vinkhuyzen, Karlsson-Vinkhuyzen, 2014), its role seems inevitable in order to bring about societal change.

Additionally, the type of leadership that is necessary for the transition and the motives that guide these leaders are important to analyze. For the energy transition to occur leaders may have to leave old leadership patterns behind. Authoritarian and paternalistic leadership, which seek to dominate decision-making, serve an egoistic need for power, and also undermine the capabilities of other group members, seem inadequate (Vinkhuyzen, Karlsson-Vinkhuyzen, 2014). Sustainability leadership requires new values. Leaders need to act on moralist or Kantian motives rather than focus solely on the *homo economicus*' urge to free ride (Schwerhoff et al., 2018). Though this may seem a radical shift, human beings seem to have an innate ability to act on more than just economic self-interest (Mansbridge, 1990). Additionally, effective leadership will have to be horizontal and service-oriented rather than top-down and control-oriented, implying a shift from 'power over' to 'power with' one another (Karlberg, 2004). Leadership must be accessible to all, not just a privileged few (Anello, Hernández, 1996). Furthermore, the transformation that the shift to renewable energy requires, implies that leadership needs a vision, a coherent image of what the desired future should hold (Vinkhuyzen, Karlsson-Vinkhuyzen, 2014). Also, to remain focused on this vision, leaders must possess a form a transcendence, meaning that they have to keep a certain distance which helps to persevere when obstacles are encountered. It is important not to get lost in details, but to maintain the broader perspective (Anello, Hernández, 1996).

In studying the type of leadership that is needed for the energy transition, it is helpful to make use of a leadership typology. Sotarauta (2003) makes a distinction between six types of leadership. First, *technocrats* focus on rules and details. They are conservative and appreciate continuity and stability and are usually not open-minded. In the exceptional case that change is required, it is created through institutional change. Technocrats also focus on issues and actions rather than on people, and they work independently rather than cooperate. Since technocrats resist change and do not focus on people, it is unlikely that such a leadership style is effective in the energy transition. Second, unlike technocrats, *network shuttles* are cooperation-oriented and devote themselves to their network. They do focus on people and aim for common interests, even if they have to compromise their own aims. Network shuttles welcome change and the challenges it brings, which they particularly tackle

through innovative measures. They also inspire people. However, their enthusiasm may come at the expense of organizational goals. They may also belittle the rules of the game, which restricts their potential influence. Third, *visionaries* break away from business as usual and aim for the bigger picture. They are future-oriented and believe that barriers can be overcome through an attractive and innovative image of the future. Although they do tackle new issues in innovative ways, they may also be too impatient to deal with still existing issues. Visionaries see formal power and institutions as hindering change, but by not understanding such power, they have an unrealistic image of the influence they have. Fourth, *handicraftsmen* are relatively pragmatic in that they focus on the present and aim for efficiency in the process. They do not focus on the future, because the future is too complex to control. Rather they emphasize the need to coordinate current processes which they manage in an orderly way with attention to detail. Like technocrats, handicraftsmen are fact-oriented and do not focus on people. However, they differ from technocrats in that they focus on the process rather than the rules. Fifth, *political animals* focus on their own position. They are chameleons in the sense that they use different types of leadership in different circumstances. Political animals often seek new cooperation partners. They have no problem in leaving behind their own network and they try to exploit different networks. Political animals know very well how power structures work and therefore are able to affect the rules of the game.

Table 1: Leadership typology

Types of leaders	Characteristics
Technocrat	Focus on rules, stability, fact-oriented, work independently, resist change
Network shuttle	Cooperation-oriented, welcome change, inspire people, disregard institutions
Visionary	Aim for bigger picture, future-oriented, disregard existing rules and issues
Handicraftsmen	Pragmatic, present-oriented, orderly, fact-oriented, focus on process
Political animal	Focus on themselves, use multiple styles, seek and exploit new networks, acknowledge power structures
Battering ram	Goal-oriented, exploit existing knowledge, implement vision and strategies convincingly

Source: author, based on Sotarauta (2003)

However, the focus on themselves may come back to haunt them. Finally, sixth, *battering rams* have a focus on reaching goals. They use any possible means to 'make it happen'. They talk, convince and network, but only do so if it helps them to reach their goals. Battering rams focus on exploiting existing knowledge rather than creating new knowledge. Though others may perceive battering rams as oppressive, they can play a big role in implementing visions and strategies.

The six types of leaders are summarized in Table 1. The different types, although a simplification of reality, may help to get more insight into the leadership that is required for the energy transition. The typology allows to compare different types. Though some types seem superior in bringing about desired change, a combination of the different types may be most effective. Different leaders in different organizations may be equally successful even though they use very different tactics. The typology also allows to study what type of leadership is required in different layers of society. The goal of the current research is to study if and to what extent these six leadership types have the potential to induce the shift towards renewable forms of energy.

2.3. Transformative leadership

Given that the energy transition poses an adaptive challenge, which requires societal change and leaders to act on more than economic self-interest, transformative leadership theory seems appropriate. Transformative leaders critique the current status quo, focus on both individual and public good, have moral courage and aim for social justice (Shields, 2010). The rebuttal of the status quo is particularly an aspect that is needed in the energy transition, as the transition from fossil fuels towards renewable forms of energy imply a shift away from common practice. It is important to make the distinction between transformative and transformational leadership. The focus of transformational leadership is on "increasing the commitment and effort of organizational members toward the achievement of organizational goals" (Leithwood & Sun, 2012, p. 388). The transformational leader motivates her subordinates to do well for the organization, instead of just for personal gain. These leader try to increase awareness of the importance to perform well (Hay, 2010). However, the goal is to transform their own organizations by enhancing efficiency and effectiveness. It therefore involves improving the status quo while ultimately maintaining it and reproducing it (Hewitt et al., 2014). It is the assertion of this study that this style of leadership does not suffice for the energy transition. Transformative leadership, on the other hand, is more revolutionary, it implies a disruption of the status quo. For the energy transition, real change is required, i.e. "a transformation to the marked degree in the attitudes, norms, institutions, and behaviours that structure our daily lives" (Burns, 1978, p.414). Transformative leaders lead beyond their own organizations; they try to have an impact on society as a whole. They also acknowledge

that the inequities of the outside world have an impact on their own organization (Shields, 2010).

As argued earlier on, the energy transition cannot be seen merely as a technical challenge. In line with this, Howaldt and Kopp (2012) argue that social innovations are becoming more important than technical innovations for societal challenges. Social innovation is more competent to drive societal change and to empower actors (Avelino et al., 2017). Transformative social innovation is conceptualized as the altering and replacement of dominant institutions in the social context (Haxeltine et al., 2016). The concept "transformative" here implies an irreversible, persistent adjustment in societal values, outlooks and behaviours (Avelino et al., 2017). Leaders that intend to achieve transformative social innovation provoke change through new ways of doing, organizing, knowing and framing. The focus here is on the change in social relations that is needed to induce the transition towards renewable energy. Again, though such change in behaviour is difficult to accomplish, leaders have the potential transformative agency to shape according to their values, ideas and needs (Horlings, 2017). It is therefore argued that transformative leaders are key in the energy transition.

2.4. Value-based leadership

As argued earlier on, the worldviews and values that people possess are very influential as to how people understand and interact with the world around them (Schlitz et al., 2010). It is here therefore argued that for the energy transition to occur, people's values need to be changed accordingly. Values are often considered to be fixed and unchangeable, but if we broaden our scope and assume that humans are capable of expanding their value system, a whole new world opens up to bring about societal change (Vinkhuyzen, Karlsson-Vinkhuyzen, 2014). Considering values as the levers of change, we can do much more than merely achieving environmental goals. It enables to shift the aim towards a better life for our next generations without undermining ecological resilience. Values and worldviews substantially influence changes in political, institutional and economic change (Hedlund-De Witt, 2011). Values are therefore essential as to whether sustainable development remains a dream or actually can be brought into practice (Brown, 2005). There is a prevalent belief that most of our societal problems actually have arisen because of the values and worldviews we possess (Brown, 2005). This indicates the importance of values, but is also shows that if we want to solve our societal problems, we have the ability to provoke change by amending our values. At the root of our problems also lies its solutions. It is therefore argued that a value-based approach should be applied to the energy transition.

A value-based approach implies that we take the subjective motives, values and opinions into account (Horlings, 2010). Sustainability in general should not be treated as a

value-free science (Rajeswar, 2010). Rather we should make values explicit, as a change in values can provoke the change our society needs. In the energy transition, we should take environmental values as the starting point. If we continue to only prioritize economic and political values, we fail to reconnect to the environment. A value-oriented motivation and passion that guides daily practices is needed to reconnect people to their environment (Horlings, 2012). The energy transition is not merely a tension between humans and the outside, objective, exterior world. Much more, the energy transition is affected by how humans interact with each other. Therefore, we should make the subjective, interior dimensions of the energy transition, which include worldviews and values, explicit (Hedlund-De Witt, 2011). The focus on values emphasizes the important role of leadership in the energy transition. If we are to move towards a society in which individuals take responsibility for the effect they have on the climate, the values of leaders are particularly influential (Vinkhuyzen, Karlsson-Vinkhuyzen, 2014). Leaders have larger potential to bring about societal change. Not only do they have to adopt adequate values themselves, they must also express and share their values with followers.

Value-based leadership is a relatively recent approach in leadership that takes into account the need to harmonize the values of both leaders and followers (Shatalebi, Yarmohammadian, 2011). It deviates from traditional style of leadership in that it moves away from a focus on exact control and emphasis on hierarchy. Although value-based leadership acknowledges that there can be severe personal differences between leader and follower, it emphasizes the need to establish common values. Leaders must be committed to these core values and must make them clear and explicit. In order to provoke adequate action, leaders must clearly communicate these values. If these leaders are able to internalize values that supportive of the energy transition, and if they have the capabilities to lead, they will bring about the societal change that is needed and guide society as a whole towards it (Vinkhuyzen, Karlsson-Vinkhuyzen, 2014). However, it may be that followers resist the changes that are needed for the energy transition. Evidence suggests that leaders who understand why followers resist change and who are willing to personally invest in trying to overcome resistance, are more effective in achieving their goals (Garg, Krishnan, 2003). To overcome such resistance, leaders must create an alternative system of belief which they have to convey to their followers. Leaders therefore must challenge the inadequate values that their followers possess and create a coherent vision which they consequently convey to their followers. That is the essence of value-based leadership. Additionally, to bring about change, the leader must also be willing to change herself (Garg, Krishnan, 2003).

Value-based leadership has the following characteristics (O'Toole, 1996). First, value-based leaders are both principled and pragmatic. They are principled in the sense that they commit to a long-term objective which is based on what is morally right. On the other hand

they are pragmatic in that they are willing to lose on short-term missions, as long as it does not interfere with the ultimate objective. Furthermore, the leader must have an inspiring vision and find ways to communicate this vision to her follower. In trying to clarify her vision, it is especially helpful to make use of participatory processes (Prilleltensky, 2000). Additionally, the value-based leader must be clear about her own beliefs, her own assumptions about e.g. human nature. Relating this to the energy transition, the leader must clearly communicate her belief that it is wrong to continue to use fossil fuels as it damages the environment. Finally, value-based leadership is built on the full inclusion of followers and on inspiring trust and hope in followers. However, there are also some risks associated with value-based leadership. For example, the leader runs the risk of being too abstract on her core values, which prevents the communication of these values. The values that are posited must be clearly articulated, so as to be able to translate them into concrete policies (Prilleltensky, 2000). Another risk concerns the chance that some followers behave in contradiction with the core values of the leader. In these situations leaders must be able to engage in conflict resolution. A culture of openness and critique enables conflict resolution.

Notwithstanding these risks, value-based leadership seems to provide opportunities for the energy transition. The shift towards renewable energy requires a significant change in behaviour, including the adoption of sustainable energy sources and energy-efficient technology, but it may also include a radical change in energy consumption. In order to understand whether people will change their behaviour accordingly, it is essential to analyze the antecedents of behaviour, namely values (Steg et al., 2015). Specifically, the values that leaders adhere to and how these values translate into their vision is important to analyze. When it comes to sustainability a distinction is often made between three different types of values, namely social, economic and ecological or environmental values. These constitute the 'three pillars' of sustainability (Gibson, 2006). This three pillars approach assumes that sustainability is about balancing social, economic and ecological values. The approach encourages an emphasis on making trade-offs between these three pillars. However, things are more complicated than this. Issues regarding sustainability often concern a multiplicity of factors which interrelate and reinforce each other. Therefore, it is argued that the integration of social, economic and ecological considerations is the essence of the concept of sustainability (Gibson, 2006). Rather than excluding each other, the three pillars are related and all three components are important to consider in order to move towards sustainability. Hence, whilst environmental values serve as a good starting point, social and economic values should also be pursued in the energy transition. In studying the visions of leaders, it will be analyzed whether they acknowledge the interrelatedness of the three pillars or whether they are inclined to prioritize either of these. In sum, values are an essential part of leadership in the energy transition. If leaders are successful in understanding and steering

values and if they act on the right values themselves, they may indeed provoke the individual behaviour that the energy transition requires.

2.5. Four-quadrant model of leadership

In order to study the importance of value-based leadership in determining transformative leaders in the energy transition, the four-quadrant model of leadership (Horlings, 2012) is used. The value-based approach implies the inclusion of the subjective dimension on how people behave regarding the energy transition. Though much literature has focussed on the objective contexts of leadership, e.g. the institutional context, this model takes a step further by incorporating the subjective dimension. This implies that it is not only important to analyze what leaders do in practice, but it is equally important to study their values. The model is based on the Integral Theory posited by Wilber (2000) which addresses both the objective and the subjective dimension. The model consists of four quadrants and is organised around two axes: the individual versus the collective dimension and the subjective versus the objective dimension. These four quadrants are posited as the I (subjective, psychological), IT (objective, physical and behavioural), WE (inter-subjective, cultural) and THEY (inter-objective, systems) dimensions. All these four quadrants are interconnected and simultaneously interact with each other and affect each other. These dimensions should all facilitate the energy transition for it to be successful. If a problem in one dimension occurs, it will usually lead to problems in other dimensions. Monitoring and responding to changes in these dimensions is a key ingredient for success. Studying the psychological, behavioural, cultural and the systems dimensions may contribute to more effective measures that leaders can take (Brown, 2005), in this case to promote the shift towards renewable energy. The four-quadrant model of leadership is portrayed in Table 2.

Table 2: four-quadrant model of leadership

	Subjective, inner world	Objective, outer world
Individual	**I-dimension:** Inner motivations, values, passion	**IT-dimension:** stimulating favourable behaviour, anticipating governance context
Collective	**WE-dimension:** dealing with (opposing) visions and values in networks	**THEY-dimension**: interaction with institutional context, building bridges

Source: author, based on Horlings (2012)

The I-dimension (individual, subjective) covers the psychological dimension of leaders. This dimension is expressed in personal rather than technical or economic terms. It concerns the motivations of leaders, their enthusiasm, but also their ability to convince and mobilize others. These characteristics are rooted in the human values of the leader. Studying the I-dimension therefore is the main objective of the current study, as it relates to the leader's values. In this dimension leadership is effective when leaders are able to convey their passions onto followers. Passion is necessary to persist in light of long-term cooperation (Horlings, Padt, 2011). This particularly applies to the energy transition, as it will continue to be a challenge in the coming decades. Regarding the motivations of the leader, it is suggested that the leader acts on more than private interests. For the leader to be sustainable she needs to be aware of the bigger pictures, and thus she must operate beyond business goals. Moving beyond self-interest and beyond business goals is in line with the essence of transformative leadership. By applying the I-dimension in the current study the goal is to analyze what drives leaders in the energy transition and how their personal characteristics contribute to effective leadership.

The WE-dimension (collective, subjective) concerns the capacity of the leader to work with people who possess divergent opinions and values. In such networks the task of the leader is to create a common vision and consequently to bring about change. Regarding the energy transition, this common vision must be based on a higher goal of societal change rather than for example the egocentric values of a leader. Initially followers may not adopt the same vision of the leader, leading to tension and conflict. Followers may for example have different opinions on the urgency of using renewable energy sources, or they may not agree with the types of energy or the strategies used. In trying to resolve such conflicts, through story-telling the leader can create an alternative belief system, one common vision to which the followers adhere. Leaders here can be either networkers or visionaries (Horlings, Padt, 2011). The former is cooperation-oriented and the latter is goal-oriented and focussed on the bigger picture. Regarding networks, leaders may also have to convey their vision in other networks where they have no authority. Additionally, establishing a common vision among networks may not suffice. It is also important to translate this vision into action, which is covered in the next dimension.

The IT-dimension (individual, objective) concerns how people behave and how they interact with other people in the network. This entails the behaviour of people as perceived by others. The goal of the leader here is to stimulate favourable behaviour. They are able to do so by creating a platform on which followers can flourish. The tactics of the leader that are most effective depend on the situation at hand. The leader can for example inspire, negotiate or mediate. This depends on the needs of their followers, implying the need to understand what drives followers and consequently how they can be stimulated to behave in desirable

ways. Some followers may only be stimulated to behave accordingly through financial incentives, whereas others require the leader's respect and recognition. The IT-dimension also implies that the leader must anticipate and understand the situation and the network in which she operates. The situation at hand depends to a large extent on the institutional context, which is covered in the final dimension.

The THEY-dimension (collective, objective) refers to how leaders and their network interact within the institutional context. Here it is important for the leader to build bridges between organizations and to mobilize actors from different networks in a process of dialogue. Negotiation between private and public parties can be particularly effective for a leader. However, such collaboration also entails risks. Among parties there may be a lack of trust or clashing interests resulting in a lack of cooperation between parties. Additionally, the institutional context implies that leaders and their organizations are prone to a lot of regulations. Often a glass ceiling of institutions, rules and dominant ideas is experienced (Horlings, Padt, 2011). If institutions are too rigid they may hinder real societal change. This is particularly applicable to the energy transition. Since the shift towards renewable energy requires substantial societal change, institutions are required to change accordingly. By understanding the institutional context, leaders are enabled to identify the obstacles created by institutions. Ideally, leaders are able to influence institutions and to help them adjust to the evolving society.

In sum, the four dimensions outlined above may help to analyze the different conditions that are needed to facilitate the energy transition. The division in four quadrants may help to understand in which aspects different leaders are successful and in which aspects they fail. The I-dimension covers the personal characteristics of the leader; the WE-dimension covers the capacity of the leader to work with divergent opinion and consequently to create a common vision; the IT-dimension concerns the perceptible behaviour of people; and finally, the THEY-dimension concerns the institutional context in which leaders operate. This four-quadrant model of leadership contributes to an understanding of transformative leaders in the energy transition by discerning in which respects leaders are most effective and it therefore contributes to an understanding of what truly makes these leaders transformative.

2.6. From theory to practice

Having established the four-quadrant model of leadership, now the link towards the empirical research will be explained. The empirical research of this study will be done in the form of a series of interviews. The model will serve as a framework for the questions in these interviews. Specific questions will be asked about the four different dimensions of the model. Along the I-dimension the passions, motivations and particularly the personal values of the

interviewed leaders will be studied. Along the IT-dimension leaders will be asked how they are able to influence their followers. Furthermore, the degree to which these leaders are able to anticipate the governance context will be analyzed. Additionally the typology of the different types of leadership will be discussed in the IT-dimension, as it concerns the perceivable behaviour of leaders. Along the WE-dimension, interviewees will be asked how they are able to deal with divergent opinions and values. Additionally their ability to create a common vision and consequently their ability to mitigate conflict will be examined. Finally, along the THEY-dimension the interaction of these leaders with their institutional context will be analyzed. Furthermore, questions will be asked to what extent these leaders are able to build bridges between different networks.

To make things more concrete, the empirical research aims to link the model to transformative and value-based leadership. In order to study transformative leadership, interviewees will be asked whether they think leaders in the energy transition are needed who lead beyond their own organization and aim to transform society as whole. Additionally, it is analyzed whether the interviewed leaders show signs of transformative leadership. Analyzing the link to value-based leadership is done by asking questions as to whether interviewees make use of an inspiring vision, which values underpin this vision and to what extent they share their vision with followers. Furthermore, it is examined whether leaders see the energy transition as an adaptive challenge, and if they think that the energy transition requires the incorporation of subjectivity.

3. Methodology

The current chapter aims to elaborate on the research approach and addresses the steps to be taken in the analysis in order to reach a final conclusion. The current study mainly makes use of interviews, namely semi-structured interviews. First the rationale for using qualitative data is explained. Consequently the pros and cons of semi-structured interviews are discussed. Additionally, it is discussed how the gathered data will be analyzed in order to make statements on the research questions. Finally, the selection of the cases is explained and justified.

3.1. Research approach

This research makes use of qualitative data, specifically in the form of interviews. The rationale behind merely using qualitative data arises from the notion that the current study requires in-depth, case-based, context-specific data. The aim of this study is to investigate the motivations, values etc. of leaders, which are indeed context-dependent and specific data. Such data can therefore not be gathered by making use of quantitative, large-scale research. Qualitative research has some common characteristics (Ormston et al., 2013). First, it

provides an in-depth understanding of the social world through studying how the participants in the research make sense about social circumstances, i.e. their experiences and perspectives. An in-depth approach is needed, since complex and detailed data are handled. Furthermore, qualitative research makes use of flexible, non-standardized methods which can be amended according to the social context of the research. It therefore also portrays openness to including new theories during the implementation of the study. Finally, qualitative research is reflexive, meaning that it is acknowledged that the perspective of the researcher is influential. These characteristics seems applicable in the current study, since complex, detailed data is gathered and the research is essentially based around the experiences and perspectives of the participants.

3.1.1. Semi-structured interviews

The current research aims to study the deepest motivations, the values of participants. Therefore, interviews are conducted, since it allows for a more in-depth and detailed understanding than for example questionnaires. The interviews that will be conducted will take the four-quadrant model of leadership as posited in the previous section as the starting point. Specifically, semi-structured interviews will be undertaken. This is a method of research frequently undertaken in social sciences. They are semi-structured in the sense that on the one hand specific questions are asked to the interviewees, but on the other hand during the interview there is the freedom to depart from these questions. The interviewee is allowed to bring up new ideas and insights. This is specifically useful in this research, as beforehand little is known about the specific motives and values of leaders. The semi-structured interviews allow the flexibility to explore new pathways, in particular in cases where the interviewee has more in-depth knowledge than the interviewer. These interviews are partially structured so as to ensure that the interviewer gains the knowledge he wants. On the other hand, interviewees are allowed to address matters they value as important, but which have not been addressed in the questions (Longhurst, 2010). Semi-structured interviews ensure a platform for interviewees to speak freely and to be in a comfortable position (Longhurst, 2010).

3.2. Analysing the data

After having conducted the interviews, the data will be analyzed. It is important to distinguish what can and what cannot be concluded from the gathered data and to be transparent on the methods used. As mentioned, the case-based approach implies that it is difficult to generalize from the findings. Caution is therefore necessary when generating conclusions. The interviews will be transcribed manually. By applying the same set of questions, the aim of the research is to find general patterns in these interviews. This

research is particularly context-dependent. It therefore does not aim to generate concrete theories. The findings are still very relevant though, since it provides insights into in-depth knowledge on leadership in the energy transition.

3.3. Ethical considerations

In particular in qualitative research ethical considerations are important due to its in-depth, unstructured nature (Lewis, 2013). First, it is important that the informed consent of interviewees is obtained. Participants must be provided with information on the purpose of the study and how the data will be used and analyzed. The participants must consent formally to the interviews, which is done through the letter of consent provided in Appendix B. Second, confidentiality and, if desired, anonymity must be ensured (Lewis, 2013). Ideally, the names and positions of the interviewees are used in this research, since it allows to compare how leaders operate in different organizations. However, if the participants desire to stay anonymous then this will be agreed upon. This research aims to protect the privacy, reputation and the integrity of the interviewees. Furthermore, there are no interests in gathering data other than for the purpose of this research. The data will temporarily be kept on a save drive in order to be able to replicate the findings.

3.4. Case selection

The findings from the current research depend to a large extent on which specific persons are interviewed. Justifying the selection of the cases therefore is essential to provide transparency. First and foremost, leaders were selected from as many different types of organizations as possible, since it is the assertion of this study that leaders in the energy transition operate at many levels of society. Therefore, interviews were held with leaders in provinces, municipalities, the private sector and further organizations. Additionally, leaders within established, incumbent organizations were interviewed as well as leaders within smaller, upcoming organization. Finally, a similar distinction was made on the level of the leaders themselves. Both young, upcoming leaders as well as established leaders were interviewed. All in all, the mixed selection of leaders aims to contribute to more reliable findings which can therefore be applied more generally. Though the current thesis aims to analyze leadership in the energy transition for the Netherlands as a whole, most of the participants originated from Groningen or near due to the researcher's place of employment. Some participants were also selected based on the network of the researcher. Furthermore, not all of the leaders that were initially selected were available for being interviewed.

3.5. List of participants

In total, seven leaders in the energy transition were interviewed. Table 3 provides a list of these leaders. The names, organizations, functions and reason for selection are listed. One of

Table 3: List of participants

Names	Organization	Function	Reason for selection
Bouwe de Boer	Foundation 'Fossylfrij Fryslân', municipality of Leeuwarden	Energy Commissioner province of Friesland, municipal officer	Twofold leadership role as Energy Commisioner and within municipality
Hans Coenen	Nederlandse Gasunie	Vice president corporate strategy	Leader within established, incumbent organization
Hotze Hofstra	HOTZE: space for sustainable development	Owner HOTZE, entrepreneur, Energy Commissioner province of Groningen	Twofold leadership role as Energy Commisioner and entrepreneur
Nienke Homan	Province of Groningen	Member of the Council of Provincial Executives, on behalf of GroenLinks	Leader in the province at the level of governance
Machiel Mulder	University of Groningen	Professor of Regulation of Energy Markets	Leader in the scientific community
Werna Udding	Province of Groningen	Team coordinator Space and Energy	Leader in the province at the level of programme and project management
Anonymous	Renewable energy company	Entrepreneur	Young, upcoming leader

the participants indicated that he or she preferred to remain anonymous. The next chapter will start with a short introduction of the interviewed leaders, in which their role in the energy transition is explained and their vision is portrayed.

4. Findings

4.1. Introduction

To get an idea of the background of the participants, this section provides an introduction to the leaders. First, their functions in their organizations are elaborated upon, and consequently their specific role in the energy transition is illustrated. Furthermore, a short summary is given about their vision, which includes the leader's opinion on the current progress of the energy transition in the Netherlands, how they perceive the role of leadership, and how they think the energy transition will pan out in the near future. In the sections that

follow the findings will be concretized and linked to the theoretical framework. Consequently, a comparison is made, and striking differences and similarities will be discussed.

Bouwe de Boer is involved in the energy transition in multiple ways. Though he works for the municipality of Leeuwarden he is mostly active in his foundation "*Fossil Free Friesland*" which he started up. The foundation connects some 130 parties in the province of Friesland and together they initiate projects with regards to renewable energy. Bouwe de Boer is the foundation's project leader. Furthermore, he also serves as the Energy Commissioner of the province of Friesland. In principal, this function has no specific content, but it enables him to connect parties in Friesland, for example by speaking on congresses. He has also started up many energy cooperations in Friesland, by connecting the many networks he is active in. Bouwe de Boer sees the energy transition as a sort of psychological challenge. People are afraid of new things. As a society we have become accustomed to current practices which is too much based on control and does not allow for new things. Overcoming such psychological barriers could be major step in provoking the energy transition. He thereby emphasized the role of leadership and acknowledged the impact that individuals can have, and stated that leadership is especially needed in formal circuits. In terms of vision for the near future, he emphasized the need to develop a hybrid mixture of renewable energy sources and the importance of storing energy in either batteries or hydrogen. Finally, he argued that the Netherlands currently lacks a coherent vision, for which national politics is mainly to blame.

Hans Coenen is the vice president corporate strategy of Nederlandse Gasunie. Gasunie was initially founded for natural gas extraction in the province of Groningen. Currently it wants to transform from a gas transport corporation to a renewable energy infrastructure corporation. Hence, he is involved with the transition of an incumbent, established organization. He is responsible for developing and maintaining the corporation's strategies and business development projects. In that, his aim is to combine the long-term vision of the renewable energy infrastructure corporation with concrete projects in the short term. He furthermore stated that leadership in the energy transition can be found in many different segments of society, which he saw as a good sign. Hans Coenen indicated that the Netherlands is going in the right direction when it comes to energy transition, but he questioned whether it is going fast enough. He argued that the market can do a lot in the transition. However, governments also need to intervene through shifts in taxes and subsidies to speed up the transition. Otherwise, we will be stuck with natural gas for the next 150 years. If the Netherlands wants to reach the targets of the Paris Agreement by 2050 (95% reduction in CO_2), it has to become nearly fossil free. However, natural gas may also still be needed, which is possible if it is combined with capturing CO_2. According to him, natural gas also still has a large role to play during the transition.

Hotze Hofstra is an entrepreneur and owner of his own organization HOTZE. He has an additional function as the Energy Commissioner of the province of Groningen, in which he puts the topic of the energy transition on the agenda and connects parties. As an entrepreneur he works on concrete projects involving for example solar panels, but also on projects relating to energy saving and spatial planning. He works for municipalities, provinces, knowledge institutions, but also energy cooperations. Hotze Hofstra argued that the energy transition is inescapable. Despite lagging behind, a lot is happening in the Netherlands. The growth will be exponential, which for example is already the case for solar panels and electric cars. The transition will come faster than expected and will imply changes in mobility, in the way we live, and in our patterns of consumption. He specified the need for generic measures such as a CO2 tax, but also specific measures on local levels. He also emphasized the role of leadership by arguing that the only correct energy transition is a carried energy transition. This implies that parties who are currently inactive need to be incorporated and given a hand. Most notably, households need to be incentivized to shift away from fossil fuels. The government has a large role to play in this respect, he argued.

Nienke Homan is member of the Council of Provincial Executives in the province of Groningen. On behalf of the political party GroenLinks she is responsible for governance on a daily basis. The energy transition is one of the main topics in her portfolio. Working for the province she is mainly involved with the accessibility and the spatial impact of energy, as well as handing out permits for e.g. solar and wind farms. She emphasized that leadership is essential in the energy transition. Leaders are needed who develop a coherent vision and dare to take a stance. According to Nienke Homan, the polder model in the Netherlands creates disincentives for leaders to take a stance, as they run the risk of getting sacked when things do not go as planned. In terms of progress, she argued that the Netherlands is lagging far behind, in particular because there are too many discussions on what we cannot do. There is also a lack of leadership and a lack of clear goals on the national level. However, she also stated that once the trend is started, we will make the transition faster than we are currently thinking and we will reach our climate goals. She further argued that such progress is also needed, since climate change is coming at us at an immense pace. We owe it to our next generations to do everything we can.

Machiel Mulder is professor of Regulation of Energy Markets at the University of Groningen. He is both involved in research and in education concerning energy markets and energy policies. The energy transition has become a main topic in recent years. He also serves as the president of the Benelux Association for Energy Economics, among other things. His work mostly focuses on the impact of renewable energy on energy markets. In terms of progress he argued that the energy transition is becoming more successful and effective, for example with solar and wind farms as well as with respect to hydrogen. He acknowledged

that the percentage of renewable energy is too low in the Netherlands, but stated that it does not say much, as the Netherlands has notable restrictions such as a high population density. He further stated that the energy transition is only one part of the bigger picture. The main goal is to reduce CO_2 emissions and thereby combat climate change. Machiel Mulder argued that this cannot be achieved merely by a shift to renewables. Due to the increase in electricity usage, for example because people start using electric cars, the forecasts suggest that we will actually use more natural gas in the near future. Renewable energy will not be able to meet its demands, and as a consequence he argued that the 95% reduction in CO_2 seems completely unrealistic. Though progress is made with regards to the energy transition, there are too many barriers such as the costs and the societal resistance, whilst at the same time the demand for energy continues to increase. He therefore stated that leadership is needed not only with regards to the energy transition, but to climate policies in general. Leaders are needed who advocate reduced consumption of energy e.g. by flying less. He indicated that when it comes to such moral considerations regarding behavioural change people are afraid of being ridiculed, which partly explains why there is a lack of leadership in the Netherlands.

Werna Udding works at the province of Groningen as the team coordinator of the department Space and Energy, and currently she also serves as the programme manager of the energy programme. She had also worked on energy saving in recent years. Due to the energy programme she has a lot of contact with other networks, such as the industry in the northern part of the Netherlands as well as with energy cooperations. With regards to the progress of the energy transition, Werna Udding indicated that one should look at it at different levels. She stated that when it comes to renewable energy in the province of Groningen there is much progress, also relative to other provinces. Especially the boom in solar parks has been substantial. However, on other levels much more needs to be done. Particularly in the industry things need to change, but that is difficult due to its economic values and employment opportunities. She also indicated that leadership is essential, since the energy transition will have high costs in the short term. The larger returns in the longer term are difficult to appreciate by most people. Leaders are therefore needed who frame the transition as an investment.

Finally, there was one participant who preferred to remain anonymous. He is a young entrepreneur and owner of a renewable energy company. The goal of his company is to reduce barriers for consumers and incentivize households to shift towards renewable energy. He is also responsible for an organization in the Benelux which carries out the message of an influential climate leader. He also functions as a guest speaker at many different conventions. In terms of progress, he argued that the Netherlands is far behind in the energy transition compared to other European countries. However, he argued that there is certainly much growth, for example in the solar energy market. He did not expect the Netherlands to take up

a leadership role in the near future, and argued that new economies play a much larger role. As an entrepreneur he had much faith in the private sector and the market, and he stated that most change is effected there due the structure of our capitalistic society. He opted for a more equal playfield with regards to subsidies on fossil fuels and renewable energy respectively. He also indicated that leadership is especially needed in the private sector.

Having portrayed a first image of the interviewed leaders, the analysis now carries on with linking the qualitative data to the theoretical framework. In the following, the focus will mainly be on the striking similarities and differences in the participants' roles in the energy transition as well as in the views that they hold.

4.2. An adaptive challenge?

The current work started from the assumption that the energy transition poses an adaptive challenge, rather than merely a technical challenge. Whereas a technical challenge implies that the energy transition can be brought about through expertise, innovation and technology (Wise et al., 2014), an adaptive challenge conceives the energy transition as a challenge that arises from the interaction between people and which can be overcome through a transformation of the values and worldviews that people possess (O'Brien, Selboe, 2015).

Most participants indicated that for the largest part they conceive the energy transition as an adaptive challenge. It was stated that the current technology is not a problem, and that it is able to already bring about a big transition. Citizens should just make more use of the technologies that are already there. At the moment the main challenge is to include society in the energy transition.

> "As a governor I am less concerned with the technical side. In my opinion, the energy transition is just a matter of doing." – *Nienke Homan, deputy province of Groningen*

Another interviewee indicated that people simply lack the will, thereby emphasizing that the challenges lies in adapting people's value and worldviews. However, whilst there was much consensus on the adaptive challenge that the energy transition poses, there were also several participants who argued that the technical aspect is still very important. Some indicated that technological innovation is needed to make renewable energy more efficient and consequently cheaper than fossil fuels. Consequently society will adapt and switch to renewables. Another respondent stated that developing and adjusting infrastructure also implies that innovations are still needed. Some even went as far as stating that 50% of the challenge is a technical one. In that sense, developing technology further in the future is essential in order to bring about the energy transition. Finally, one participant indicated that

dichotomy between a technical and an adaptive challenge is a simplification of reality. Actually, reality is much more complex and adaptive and technical elements interrelate.

One of the characteristics of an adaptive challenge is that there exists a gap between reality and what is desired, and another characteristic states that current responses are inadequate. Most of the interviewees indeed indicated that currently the Netherlands lags behind in the energy transition, which to a large extent can be explained by the lack of measures taken. Indeed, almost everyone agreed that the pace of the energy transition in the Netherlands is too low. There is too much discussion, in particular on what we cannot do. On the national level there is a lack of clear goals and a lack of leadership. The national government should also play a larger role in the energy market. In terms of the bigger picture, the percentage of renewable energy is far too low in the Netherlands, especially compared to other European countries. However, at other levels progress is being made. One interviewee indicated that the Netherlands for example is a pioneer in local initiatives. Hence, whilst currently the picture is not positive, there are signs that in the future the Netherlands will be able to do its share in the energy transition

"Whilst the overall progress is insufficient, there is a lot of growth, for example in the solar energy market. The Netherlands is known for that: we do not get going on time, but once we do, we exceed all expectations" – *Anonymous, entrepreneur*

So whilst the Netherlands is doing too little in the energy transition at the moment, participants indicated that there is room for hope. Nevertheless, a gap between reality and what is desired does exist and current measures are inadequate. It thereby satisfies the assumptions of an adaptive challenge.

All in all, interviewees seem to agree that, although technology plays an important role, to a large extent the energy transition poses an adaptive challenge. Therefore, for the transition to occur, significant changes need to happen in people's worldviews and values. Though such behavioural change is hard to provoke, human actors have the potential transformative agency to shape according to their values, ideas and needs (Horlings, 2017), implying that the role of leadership is very important in the energy transition.

4.3. Leadership in the energy transition: transformative?

Participants indicated that the role of leadership is of great importance in the energy transition. Since the energy transition to a large extent poses an adaptive challenge, participants argued that leaders are now needed who actually take it into practice. One respondent emphasized the need to have leaders in the right position with the following example.

"Here at our municipality we have a mayor who considers the energy transition to be his biggest hobby. This is some sort of gift from heaven for us, as it makes lives much easier for us within the municipality" – *Bouwe de Boer, municipal officer and Energy Commissioner of Friesland*

It was also mentioned several times that in the Netherlands more leaders are needed who dare to take a definite stance, with one respondent adding that leaders are needed in the whole climate debate, not just in the energy transition. Especially when it comes to national politics, there is a lack of leadership. Though there are some politicians who put the energy transition on the agenda, they are not the frontrunners in the Netherlands, mainly because these politicians are not in the powerful positions. However, leaders in such formal circuits could play an immense role in the energy transition, most notably by encouraging and supporting initiators in civil society and the private sector. Leaders should bring the energy transition close to citizens, by making things concrete. If things remain too vague, it is too easy for citizens to resist change. One respondent emphasized the need for leaders who try to incorporate society as a whole with the following quote.

"The only transition is a carried transition. More parties need to be incorporated and need to be given a hand. The government has a large role to play in this." – *Hotze Hofstra, entrepreneur and Energy Commissioner of Groningen*

In terms of current leaders in the energy transition in the Netherlands, the opinions of participations were divided. Some interviewees stated that a lot of leaders can be found in the scientific community, for example the likes of Ad van Wijk with his role in hydrogen and also Jan Rotmans who played a key role in framing the transition. Others argued that there is lack of leaders in the scientific community, as they get too little attention. Additionally, one participant argued that there were leaders in science a couple of decades ago, but that the scientific rationale for the energy transition has been well-established by now. Currently, most leadership is found in the private sector. On top of that, some participants pointed out leaders in non-governmental organizations, such as Marjan Minnesma, director of foundation Urgenda. Respondents also indicated that they have a lot of contact with the aforementioned leaders. In general, it was argued that leaders in the energy transition can be found in many different segments. The transition towards renewable forms of energy is a broad transition. That leaders are present in many different fields was considered as a good sign, as it shows how active people already are in the energy transition. Indeed, leadership must be accessible to everyone, not just a privileged few (Anello, Hernández, 1996).

Having established the importance of leadership, the next step is to identify what kind of leadership is necessary. It has been argued earlier on that transformative leadership is required. To summarize, transformative leadership implies that the status quo is critiqued and that leaders aim for social justice (Shields, 2010). Transformative leadership distinguishes itself from transformational leadership in that it moves beyond the goals of the organization. In this section the opinions of leaders will be discussed as to whether they think transformative leadership is required in the energy transition. In the IT-dimension it will be discussed whether they show actual signs of transformative leadership. In general, participants indicated that the main focus should be on societal goals , and not merely on the goals of their organization. For some leaders this was quite straightforward, as they work for a governmental body. Consequently, the goals of their organization are actually in line with societal goals. On the other hand, leaders in the private sector stated that it is also important for them to reach their organizational goals.

> "Our highest goal is a societal one, but in order to achieve that we first need to reach organizational goals. We need to make profits to be able to provoke change. Though profit is a secondary goal, the more profit we make the more change we can bring about."
> – *Anonymous, entrepreneur*

Hence, it seems that rather than being a dichotomy, organizational and societal goals are actually complementary, in particular for government officials, but also for entrepreneurs. However, it can be concluded that the interviewed leaders advocated to move beyond transformational leadership, i.e. they opted to do more than just improving their organization. Another element of transformative leadership is the disruption of the status quo. In general, it was argued that we cannot continue business as usual. This makes sense, as the term 'transition' already implies that we move away from the status quo.

> "It does not suffice to continue on our current path. New opportunities have to be generated. In doing so, first, it is essential for a leader to establish a coherent vision" –
> *Nienke Homan, deputy province of Groningen*

Hence, due to the emphasis on societal goals and the rebuttal of the status quo, there was consensus amongst participants that transformative leadership is required in the energy transition. Since the energy transition implies a shift away from business as usual, it is, as mentioned in the quote above, essential that the leader develops a clear vision. If leaders are able to develop a clear image of the future they may guide society as whole towards a fossil free future.

4.4. Visions and value-based leadership

A value-based approach implies that we take the subjective motives, values and opinions into account (Horlings, 2010). The values that leaders possess are particularly important, as they have a greater capacity to change society (Vinkhuyzen, Karlsson-Vinkhuyzen, 2014). Furthermore, one important characteristic of value-based leadership is that leaders must have an inspiring vision which they must communicate to their followers (O'Toole, 1996). Hence, to test value-based leadership, participants were asked about their vision regarding the energy transition for the near future. Most participants agreed that the energy transition is inescapable. They also agreed on the time span of the energy transition. The targets for 2050, with a 95% reduction in CO_2 emissions, will most likely be met according to most respondents. This target implies that the Netherlands should be completely fossil fuel free by 2050. However, one respondent was less optimistic about reaching these targets.

> "If we fully shift to electrical energy the demand will double. Renewable energy will not be able to meet such demands, even if we go far beyond the targets for solar and wind energy. As a consequence, it seems completely unrealistic to suggest that we will reach a 95% reduction of CO_2 by 2050." – *Machiel Mulder, professor University of Groningen*

Nevertheless, other interviewees were quite positive about the pace of the energy transition in the near future. Though progress so far has been way too low, progress will be exponential in the future. This is already happening in certain fields, for example with the number of solar panels doubling each year. Things will therefore go faster than we are currently expecting. However, there is still a long way to go, which the following respondent illustrated with this quote:

> "The climate agreement is not a half marathon, but a full marathon which will take at least until 2050" – *Hans Coenen, vice president corporate strategy at Gasunie*

Participants agreed that developing a coherent vision is a key ingredient in shifting towards renewables, especially because followers are in want of a coherent vision. Hence, the interviewees stated that developing a clear vision themselves was an important element of their role as leaders.

In terms of the composition of renewable energy resources, most participants argued that a hybrid mixture is needed for the energy transition. Here, respondents indicated that technological development will also continue to be important, not only to make current technologies more efficient but also to generate new forms of renewable energy, such as blue energy. Solar and wind energy will be insufficient to fully carry the transition, mainly due to the volatility in the amount of energy that is generated. Therefore, improvements in

technologies that are able to store energy are also needed, for example regarding hydrogen and batteries. Additionally, a couple of participants drew attention to the need to capture and store carbon in the future. Though this is not part of the energy transition, as it does not imply a shift towards renewables, some interviewees saw it as an essential instrument to combat climate change. Furthermore, interviewees were asked about their vision on consumption levels of energy. Most leaders emphasized the need to reduce consumption in order to reach the targets of the Paris Agreement, in particular regarding the reduction of CO_2 emissions. However, leaders in the private sector stated that a reduction of consumption is not necessary per se. One participant further argued that a reduction of consumption is unlikely:

"I don't think our level of consumption will change much, as we have become so addicted to consumption. However, I do think our way of consumption will change." – *Hotze Hofstra, entrepreneur and Energy Commissioner of Groningen*

Furthermore, leaders' visions on the role of the market in the energy transition were analyzed. Leaders in the public domain predominantly argued that the energy market in itself is not able to bring about the transition. Rather, governments should have a role in impacting the energy market, for example by providing subsidies. Additionally, most were in favour of a carbon tax, thereby integrating the costs that CO_2 emissions impose on the environment into the price of energy. However, it was argued by one respondent that further research is needed on the impacts of such a tax. Whereas leaders in the public sector questioned the ability of the energy market to bring about the transition, the entrepreneurs had more faith in the market. One particular interviewee argued that currently there are many more subsidies on fossil fuels than there are on renewables. If an equal playfield were created, the market would already facilitate the transition. Hence, a notable difference could be observed between the visions of leaders in the private and public sector, respectively. Both argued that their own sector would play a larger role in the energy transition. In reality, things are more complex. Both the private and public sector are needed to invoke the shift towards renewables. The observed difference can therefore be explained by the different emphasis that leaders put on their own profession.

For the final element of the leaders' vision, questions were asked regarding the responsibility of different parties in the energy transition. In general, respondents indicated that the responsibility lies with many different parties, including private parties, governments, but also individual citizens. Some participants argued that most responsibility with citizens, most notably in the way they vote and thereby choose their governments. Others argued that governments should take more responsibility and should be more active

in the energy transition. The government should not take full control of the energy transition, but it should steer it in the right direction.

> "Though the responsibility for the energy transition not only lies with the government, it could and should make sure the transition is steered in the right direction" – *Hans Coenen, vice president corporate strategy at Gasunie*

Not only the content of the leader's visions was analyzed, but also their underlying values. If we are to move towards a society in which individuals take responsibility for the effect they have on the climate, the values of leaders are particularly influential (Vinkhuyzen, Karlsson-Vinkhuyzen, 2014). In the theoretical framework a distinction was made between social, economic and environmental values, the three pillars of sustainability (Gibson, 2006). The main similarity among interviewees was that they saw environmental values as an important starting point. However, they also acknowledged the need to balance these with social and economic values. The most notable difference was that leaders in the public sector emphasized the need to balance social values with environmental values.

> "For us as a province it is particularly important to consider social values such as social acceptance and support. Due to the increasing spatial impact of renewable energy social acceptance has become a key factor." – *Werna Udding, team coordinator and programme manager province of Groningen*

On the other hand, leaders in the private sector emphasized the need to balance environmental and economic values. Hence, participants acknowledged the interrelatedness of these pillars and aimed to integrate them, thereby supporting the main message of sustainability (Gibson, 2006). One respondent added that environmental values are part of economic values. If an individual values the environment it becomes part of her utility, which thereby makes it economic. It was also mentioned that it is important to consider the values of others. Most notably, not only citizens who endorse environmental values should be included in the energy transition. Also those who mainly act on economic values should be given a hand and be incentivized to shift towards renewables. In general, it was found that the three pillars interrelate and to some extent complement each other. Indeed, in the end the goal is to create a sustainable society based on *"people, planet, profit"*, with one respondent adding:

> "Though in the short term there is much discussion on who is going to pay for the energy transition, in the long run, a sustainable society is much wealthier" – *Hotze Hofstra, entrepreneur and Energy Commissioner of Groningen*

Having established the different visions of the interviewed leaders and their underlying values, in the next sections value-based leadership in the energy transition will be further tested through the four-quadrant model of leadership by Horlings (2012). The four quadrants of the model will be discussed, in order to determine in which domains leaders are able to effectively contribute to the energy transition and in which domains participants feel constrained to exercise their leadership.

4.4.1. I-Dimension

The I-dimension (individual, subjective) covers the psychological dimension of leaders. It concerns the personal traits of leaders, such as their motivations, enthusiasm and how they are able to convey their passions onto their followers. In terms of *personal characteristics*, many differences were observed. There was a wide variety in age, and both female and male leaders were well-represented. Hence, leadership in the context of the energy transition is available to everyone. In terms of motivations, it was already indicated earlier on that there was consensus amongst respondents that they mainly aimed for societal goals rather than merely organizational goals such as profitability. In line with this, leaders stated that their rationale for being active in the energy transition was not based on private interests, but rather on contributing effectively to society. In general, interviewees were motivated and considered it to be their responsibility to create a more positive future than we are currently heading towards. This responsibility was not only present with regards to the energy transition, but to climate change as a whole. They thereby showed an *awareness* of environmental problems and other societal issues. All in all, respondents thereby showed a tendency to aim for the bigger picture. They indicated that they possessed a personal drive to be involved in societal issues. This was seen as an intrinsic motivation. However, differences were observed in the way that leaders conceived the energy transition as a societal challenge. Some emphasized the environmental issues, namely protecting the planet as a whole from global warming, but also protecting biodiversity. Others drew more attention to social issues, such as intergenerational equity. Here, it was argued that it is plausible that the well-being of future generations will be lower than current generations, and that we owe it to future generations to do everything we can to prevent that.

Leaders also indicated that they considered it fascinating to work on such difficult topics as the energy transition and interesting to see what one can do as an individual to bring about the change that is needed. On top of that, one respondent added that apart from contributing to society he also considered it important that his work must be fun to do, since this enabled him to be more motivated. Indeed, such passion is necessary to persist in light of long-term cooperation (Horlings, Padt, 2011), which particularly applies to the energy

transition. In terms of conveying their passions, leaders indicated that they shared their story often with colleagues. There were also many leaders who spoke and shared their visions on conventions and symposia.

"It is especially satisfying to see that young people have become inspired by one of my lectures. It is great to hear that some people adjusted their behaviour as a result of one of our projects. That's my drive." – *Bouwe de Boer, municipal officer and Energy Commissioner of Friesland*

All in all, leaders felt responsible for and were motivated by working on societal issues such as the energy transition.

4.4.2. WE-dimension
The WE-dimension (collective, subjective) concerns to the capacity of a leader to establish a common vision and to mitigate conflict when followers possess divergent opinions and values. A key element of value-based leadership is that it takes into account the need to harmonize the values of both leaders and followers (Shatalebi, Yarmohammadian, 2011). Hence, interviewees were asked whether they maintain a common vision within their organization, what their contribution is to this common vision, and whether they experience any conflict. In general, it was stated that leaders perceived a shared vision within their organization, at least with regards to the necessity of having an energy transition. For some it was more difficult to determine whether there is a common vision, as they worked with different people in different projects. Additionally it was mentioned that leaders experience a more and more common vision regarding the energy transition, as people increasingly become aware of the issue and thereby take environmental considerations more into account. Leaders also contributed to a common vision by recognizing *windows of opportunity* and thereby *raising awareness* at the right time. For example, the dry summer that the Netherlands experienced in 2018 served as a window of opportunity for leaders to show that climate change is real and happening. Consequently, there was more awareness and people were mobilized around the common vision that the energy transition is needed. Leaders also contributed to a common vision by *framing* the problem. For example, participants emphasized the need to conceive the energy transition as an investment rather than a cost. After all, the cost of continuing to use fossil fuels is much larger. Finally, there was also a common vision within the organizations of leaders that they felt the responsibility to be active in the energy transition.

Since participants generally agreed that there was a common vision within their organizations, not much friction was experienced. An entrepreneur even indicated that his

company only selects people who share the same vision, thereby mitigating conflict beforehand. Another respondent added:

> "As a corporate strategist I work actively on the organization's vision which is shared throughout the entire corporation. There is a clear dot on the horizon and there is no room for people who do not share this vision." – *Hans Coenen, vice president corporate strategy at Gasunie*

He added to this that it was sometimes difficult to include people in the common vision, especially for people who work in the field and who have been working actively with, in this case, natural gas. He emphasized the need to give such people a hand and provide them a future in renewable energy as well. Hence, it is important to understand why change is resisted, as leaders will consequently be more effective in achieving goals (Garg, Krishnan, 2003). This respondent further indicated that as a corporation there is also friction with shareholders and the Board of Directors. In such a corporation it is a continuous balance between environmental and economic values. Another interviewee stated that friction also arose due to the multiple roles this leader played in the energy transition. But in general, participants did not experience much friction. Even if there was friction, it was not regarding the energy transition itself but more regarding the consequences of concrete projects. One leader added that in such projects it is essential to link it with the bigger story of the energy transition and why it is so necessary.

Whereas most participants showed a similar aim to establish a common vision, there was one respondent who saw his role otherwise.

> "As an educator and a researcher I try to inform and educate people. Consequently they are able to develop their own vision." – *Machiel Mulder, professor University of Groningen*

He added that within universities there is not a common vision, as every researcher is free to develop his or her own vision. Hence, whilst in most organizations it is fruitful to establish a common vision, it can also be important to have different visions. This professor however stated that the conflict that is present is mostly regarding specific policy measures, rather than the transition as a whole.

In terms of sharing their visions leaders resorted to multiple strategies. They not only shared their vision within their organization on a daily basis, but they were also active on other platforms. For example, some leaders were active on social media. Others shared their vision with the media, by actively engaging with journalists. Additionally, many leaders spoke

at conventions. Hence, leaders used many platforms to share their vision. How leaders translate their visions into actions will be covered in the next dimension.

4.4.3. IT-dimension

The IT-dimension (individual, objective) concerns how people behave and how they interact with other people in the network. In this dimension not only the behaviour of the leader herself is analyzed, but also what tactics the leader uses to stimulate favourable behaviour of others. In terms of the latter element, interviewees indicated that they do not make use of hard tactics such as exchange or pressure tactics to impact the behaviour of people within their organization.

> "We do not make use of financial compensation. There is no need to, as colleagues already share the same vision. Rather, there is some sort of informal social control. We [colleagues] for example measure our ecological footprint and after some time we establish how much everyone has improved." – *Anonymous, entrepreneur*

Hence, this interviewee illustrated the link between the WE- and the IT-dimension. Since a common vision was already present, there was no need to impact the behaviour of others. However, leaders did make use of several soft tactics. For example, it was indicated that other people are in need of an outspoken opinion, especially in the public sector. Using *storytelling* as a tactic was seen as fruitful. These interviewees stated that through storytelling their aim was to establish a coherent vision, which again illustrates the importance of the WE-dimension. In combination with *storytelling*, leaders also referred to *rational persuasion*, by telling over and over again why the energy transition is needed, and to *inspirational tactics*, by being enthusiastic and positive about the future. Finally, rather than impacting the behaviour of people within their organization, leaders also emphasized the need to impact behaviour of outsiders. Here, unlike with insiders, it was stated that financial compensation can be very useful to include citizens in the energy transition.

Additionally, the typology of leadership by Sotarauta (2003) was used to determine what styles of leadership the participants use. Whilst Horlings and Padt (2011) have used a similar typology in the WE-dimension, here it will be covered in the IT-dimension, because it concerns the individual behaviour of the leader, including their personal traits and their capacities. First and foremost, a striking similarity between leaders was that they considered themselves to be both principled and pragmatic. They committed to a long-term objective, but at the same were willing to lose on short-terms missions as long as it did not interfere with their ultimate objective. Being principled and pragmatic is a key element of value-based leadership (O'Toole, 1996) and interviewees thereby showed definite signs of being a value-based leader. Furthermore, another striking similarity was that all leaders saw themselves as

embracing radical change rather than focusing on stability. Combined with the earlier finding that participants mainly aimed for societal goals, they thereby also showed signs of transformative leadership. Hence, it seems that the energy indeed requires leaders who do not build on business as usual, but instead possess the transformative capacity to change society. This finding was also reflected in their types of leadership.

Another general finding was that participants tended to be cooperation-oriented rather than working independently. This in combination with embracing change implies that no leader showed signs of being a *technocrat*. Hence, leaders in the context of the energy transition should welcome change rather than stability. Furthermore, the combination of cooperation-oriented and welcoming change implies that all leaders showed signs of being a *network shuttle*. Additionally, since participants indicated that they were future-oriented and aimed for the bigger picture, they all showed signs of being a *visionary*. Because leaders were more future-oriented instead of present-oriented, and because they were more focussed on goals rather than the process, participants did not show a tendency to be seen as *handicraftsmen*. One respondent in particular did show signs of being a *political animal*, as he was active and exploited many new networks and as he used multiple styles. He for example switched quickly between different networks when new themes arose. Consequently he knew that there was public support for certain themes and he thereby did not have to wait for politics to pick it up. Finally, there were some indications that leaders could be seen as *battering rams*, due to most participants being goal-oriented. However, leaders were not only focussed on reaching their own goals, and they did not use any means possible to 'make it happen'. They also drew more attention to creating new knowledge rather than merely exploiting existing knowledge, thereby indicating that they tended more towards being a *visionary* rather than a *battering ram*.

Participants also stated that they showed signs of multiple different leadership types. Indeed, in practice it is hard to distinguish between the six types, as they somewhat overlap. Nevertheless, one thing that stands out is that leaders predominantly served as *network shuttles* and *visionaries*. Though it is not a surprising finding that leaders acted as *visionaries*, it does fit in neatly with earlier assertions of this research. On the one hand, it fits in with value-based leadership, in that developing a vision is a key element of leaders. On the other hand, it fits in with transformative leadership, in that leaders break away from business as usual. Furthermore, the finding that leaders acted as *network shuttles* suggests that networking capabilities seem essential in the energy transition. This is particularly the case in the Netherlands, where government planning is fragmented and where such issues involve complex web of different interests and organizations (Horlings, 2012). In the THEY-dimension the networking capabilities of the interviewed leaders will be discussed in further detail.

Additionally, along the IT-dimension, leaders on the one hand were asked whether they considered the context of their organization to be either stimulating or impeding the roles that they can play. Generally speaking, respondents experienced a great degree of freedom to work on the topic of energy. It was mentioned that due to the increasing interest in renewable energy there is also more room to work on it. Additionally, leaders within the public sector indicated that civil servants have more freedom to act than in the past. Rather than working merely on the goals of particular programmes there was also room to work 'outside the box'. Such freedom to act was seen as a necessary ingredient to bring about the change that is required in the energy transition. However, one respondent also added that working in the public sector has its downsides.

"As a province we have been working on the topic of renewable energy for years. However, there are also impeding factors. If you come to the province with a very idealistic image you can be disappointed. It requires a lot a perseverance. Idealism alone is not sufficient, you also need to be pragmatic." – *Werna Udding, team coordinator and programme manager province of Groningen*

Hence the quote above again indicates the importance of the I-dimension, namely to have the perseverance to be working in such a long-term project as the energy transition.

On the other hand, interviewees were asked whether their impact on the energy transition was confined to their role in their organization, or whether they could also have an impact outside their organization. Many leaders had a twofold role in the transition, which enabled them to work more freely on what they considered necessary. Hence, their impact was not confined to their organization. One respondent added that the energy transition does not happen within the four walls of an office, it happens in the outside world. This participant therefore sought contact with many other networks in the outside world. In general, it was also indicated that participants took up their role in the energy transition in their daily lives as well. They took up their responsibility as a citizen by for example adjusting their consumption patterns and they tried to set a good example for their children. Leaders thereby served as *role models*. Thus, being a leader in the energy transition implies that one sets the right example not only in one's own organization but also in the outside world. However, doing so is not always easy:

"As a citizen I am also active in the energy transition or climate change in general. I for example do not own a car. However, there is still some sort of taboo on basing your choices on societal considerations. You do not make yourself popular by doing so, whereas it is still popular to fly all around the world. Hence, a cultural change is also

needed: people need to become more aware. Leaders are therefore needed who advocate such change." – *Machiel Mulder, professor University of Groningen*

Hence this quote illustrates that a cultural shift is needed in the values that people possess. It emphasizes the adaptive challenge the energy transition poses, and consequently the need for leadership.

4.4.4. THEY-dimension

The THEY-dimension (collective, objective) refers to how leaders and their network interact with the institutional context. Along this dimension it was analyzed whether leaders considered the institutional context in the Netherlands as either stimulating or impeding the societal change that is required for the energy transition. In general it was found that leaders experience a glass ceiling of institutions, rules and dominant ideas, which is in line with earlier work (Horlings, Padt, 2011). One striking similarity was that leaders referred to the polder model as the main impeding factor. The polder model in the Netherlands implies that many different parties, both public and private, join in negotiations. As a consequence, participants argued that large corporations are able to defend their own interests. There are two main reasons why the polder model was considered as constraining. First, the negotiations that the polder model builds on take time and thereby contribute to the rigidity of institutions. Second, there simply is too much room for parties to defend the status quo and to blame other parties. Participants stated that whilst including stakeholders in the process is a good thing, decision-making should be done by a limited number of people, as processes would be much faster and change would be easier to effectuate. Leaders mainly blamed national politics for a lack of leadership and a lack of a clear vision. Rather than taking the lead, national politics merely follows public support. As a consequence there is a lot of vagueness which leads to inertia in decision-making. The vagueness in national policymaking also contributes to the increasing political polarisation in the Netherlands. A leader in the private sector concluded from the lack of leadership in politics that the Netherlands will have to rely on the private sector to bring about the energy transition. Leaders in the public sector advocated a change in current governance practices. One interviewee indicated that the polder model can work very well if the government takes up its responsibility and creates the playfield where other parties can flourish on. He argued that such a model based on a coordinating government works much better than for example the Chinese model with a controlling government.

Nevertheless, there was consensus that currently the Dutch government is doing too little in the energy transition. It can and should do much more, for example through legislation and financial incentives. One interviewee explained why there is a lack of

leadership in the Netherlands. Apart from the polder model, she indicated that another element of the institutional context in the Netherlands serves as a constraining factor.

> "In the Netherlands we have the mentality that when politicians make an error they get fired immediately. There is no room for trial and error. Consequently there are disincentives for politicians to take a daring stance that advocates radical change" –
> *Nienke Homan, deputy province of Groningen*

Hence, the lack of leadership is not due to unwillingness of politicians, but due to such leadership not being rewarded by the public. Be that as it may, there still is too much rigidity in institutions. However, such rigidity is also acknowledged and challenged by governments.

> "As a governmental agency we realize that we are hindering change. Not because we lack the will, but because lack the ability. However, increasingly there is room for functions within governments that are not prone to strict rules and targets. Institutions are thereby becoming less rigid." – *Bouwe de Boer, municipal officer and Energy Commissioner Friesland*

Given the rigidity of institutions that is experienced by leaders, they did not consider the institutional context in the Netherlands to play a stimulating role in the energy transition. Whilst some respondents actively worked on formulating government policy, it was generally stated that the impact they as an individual could have on the institutional context was marginal. Leaders were for example not able to *change the rules of the game*. However, there were other ways in which these leaders sought to circumvent the glass ceiling of institutions.

By building bridges between different networks and organizations leaders sought to cope with the rigidity of institutions. Leaders thereby served as *boundary spanners*. Respondents indicated that they actively searched for new networks, and as a consequence new networks emerged along the way. All interviewees had many contacts with public, private and civic parties. On the one hand they tried to build bridges between networks by sharing their own vision, which again illustrates the importance of the WE-dimension, by speaking on conferences etc. For example, the two Energy Commissioners were actively involved in *setting the agenda* and thereby sought to mobilize as many parties as possible. On the other hand, the leaders' contact with other networks served to share and combine knowledge. In that sense, many leaders made use of *open innovation* which implies that they look beyond their own network in search of knowledge. Leaders were active in advising groups, councils and international organizations. By sharing information they were themselves better able to achieve not only their organizational goals but also societal goals. It was argued that the energy transition requires a unified effort, which emphasizes the

importance of networking. Hence, through networking, leaders aimed to build coalitions and alliances which served to circumvent rigid institutions.

In sum, along the THEY-dimension leaders identified the obstacles that the institutional context poses and sought ways to work around its rigidity. Most notably, although their direct impact on the institutional context is limited, their contact with other networks enabled them to increase their impact in the energy transition.

4.5. Conclusions from the model

Whereas much literature has focussed on the objective contexts of leadership, the four-quadrant model of leadership also incorporates subjectivity, i.e. the motivations and values. By differentiating the four quadrants of the model, a comparison can be made as to which domains are either stimulating or impeding effective leadership. The four dimensions should all facilitate the energy transition for it to be successful.

Along the I-dimension, it was found that leaders possess the necessary values and passions to be active in the energy transition. They were motivated by societal instead of mere personal goals and possessed the drive to continue working on the energy transition. Leaders showed an *awareness* of environmental problems and other societal issues. Whereas some were motivated by the environmental challenges, for example regarding biodiversity, that the energy transition poses, others were more motivated by the social challenges, namely creating a better planet for future generations. Leaders also conveyed their passions actively onto followers. Hence, it was found that this dimension stimulates effective leadership.

In the WE-dimension, it was analyzed how leaders translate their motivations into a common vision. Here, respondents stated that a common vision was present within their organization. There was little conflict, most notably because it was mitigated beforehand. Leaders contributed to a common vision by *exploiting windows of opportunity, raising awareness* and *framing* the issue. Leaders also used many platforms to share their vision, such as (social) media and conventions. Thus, the WE-dimension posed no barriers for respondents to exercise their leadership.

Along the IT-dimension, where it was analyzed how leaders translate their vision into actions, it was concluded that no hard tactics were used. Nevertheless, leaders did make use of soft tactics, such as *storytelling, rational persuasion* and *inspirational tactics*. Participants furthermore showed definite signs of being both transformative and value-based leaders, since they embraced radical change and were both principled and pragmatic. Leaders functioned predominantly as *network shuttles* and *visionaries*, thereby emphasizing the need to develop visions and establish networks in the energy transition. Leaders also saw the context of their organization as stimulating their role in the energy transition, and they were

also active outside their organization. Hence, this dimension posed no problems to effective leadership.

Finally, in the THEY-dimension it was studied how the actions of leaders were impacted by the institutional context. Here, rigidity of institutions was experienced by participants. Most notably it was argued that the current polder model in the Netherlands was the main impeding factor, since negotiations take a lot of time and parties are enabled to defend the status quo. Leaders sought ways to work around the rigidity of institutions by building bridges between networks and thereby creating coalitions. Nevertheless, the THEY-dimension was found to be the most impeding dimension. Thus, finding ways to mitigate the problems experienced in this dimension could me a major step in increasing the effectiveness of leadership in the energy transition. These will be discussed in the next chapter.

5. Discussion and recommendations

5.1. General findings

First, some general conclusions from the findings will be formulated. For starters, it was found that it is important to conceive the energy transition as an adaptive challenge. Although technological innovations continue to be important in the near future, the crux lies mainly in provoking adequate behavioural change. Consequently, leadership plays an essential role in the energy transition. Particularly, transformative leaders are needed who aim for societal goals and aim to disrupt the status quo. The findings indicated definite signs of the interviewed leaders doing so, thereby making them transformative. For example, it was stated by several leaders that it does not suffice to continue on our current path; we need to break away from business as usual. Additionally, leaders were found to be value-based. First, they were both principled and pragmatic in that they committed to a long-term objective but were willing to lose on short-term goals. Second, they also deemed it important to establish and share their vision. With the exception of one participant, most leaders carried out quite a positive vision of the future, namely that the energy transition will have been 'completed' by 2050. Perhaps such a positive vision is needed. Evidence suggests that in times of crisis, in this case the climate crisis, leaders who use more promotion-oriented rather than prevention-oriented communication are more likely to be endorsed and motivate higher performance in followers (Stam et al., 2018). This means that rather than trying to avoid mistakes and fearing a undesirable state (prevention-oriented) leaders must aim for advancement and must aim for a desired end-state (promotion-oriented). Most interviewed leaders indeed used promotion-oriented communication. Overall they had much faith in the pace of the energy transition in the Netherlands in the near future. Furthermore, it was concluded that the

vision of leaders were based on an integration of social, economic and environmental values, thereby supporting the main message of sustainability.

Finally, following the four-quadrant oriented model it was concluded that leaders feel constrained to exercise their leadership particularly in the THEY-dimension. In other words, they found the institutional context in the Netherlands to be an important impeding factor in the energy transition. Therefore, leaders did not feel constrained in the subjective domain, but rather in the objective domain. Most notably, leaders argued that the national government has a large role to play in improving the institutional context. The government should not take control, but it should take the lead in the energy transition. Rather than merely generating public support, the government could change the rules of the game, through changes in legislation or shifts in taxes and subsidies. Additionally, it was argued that national politics should provide a clear vision and framework on its intended course in the near future.

5.2. Implications for planners

Importantly, leaders identified the polder model in the Netherlands as a constraining factor in the energy transition. How does this finding relate to planning paradigms? Within planning theory a dichotomy exists between technical rationality and communicative rationality. Technical rationality has the following characteristics (Allmendinger, 2017). It is based on a very positivistic worldview in which direct causal relations exist. According to Faludi (1973) planners should therefore act much in the same manner as research scientists in searching for the best methodology. Values, vision or plans become almost secondary. Technical rationality is top-down and control-oriented planning, with the state taking up a large coordinating role and with planners acting as experts. There is no room for citizens to be included in this process. Although technical rationality has been the dominant paradigm for a long time, in recent decades, a paradigm shift has taken place. Communicative rationality is critical of the positivism and realism that is evident in technical rationality. Instead it takes a more relativist position where there is an agreed reality based on intersubjective processes of communication. Here planning is seen as a participative process (Allmendinger, 2017). Communicative rationality extends the reasoning process beyond instrumental rationality, to allow debate in moral and emotive terms (Healey, 1996). Planners here play a more facilitating role in including parties in the process, rather than planners representing such parties. Hence, it implies a shift form representative towards participatory democracy (Healey, 1996). How does this dichotomy relate to the polder model?

The polder model is a term to describe the distinctively Dutch style of policymaking which is consultation-intensive and consensus-seeking (De Vries, 2014). Different parties

with competing interests 'make sense' together in a participatory process. Concerning the energy transition, many parties such as NGOs but also powerful industries are allowed to join the dialogue at the '*Klimaattafel*', the symbol of the polder model. The goal of its negotiations is to create public support. Due to the inclusion of stakeholders and the use of participatory processes, the polder model very much resembles the communicative paradigm in planning. In the polder model the government plays a facilitating rather than a coordinating or controlling role: it serves as a '*spelverdeler*' (De Vries, 2014). This implies that they play an active part in the game, but are not too dominant as it would remove incentives for other parties to participate. Such a government ideally is neither too strong nor too weak, but exercises sufficient power to lubricate the processes of interest group negotiation and decision-making (De Vries, 2014). Though potentially such processes would produce outcomes to which participants can reasonably agree, it seems that interest groups are primarily oriented to engage in rent-seeking rather than productive activities. Hence, a '*spelverdeler*' power centre is needed to balance competing interests and check obstructionist behaviour (Prak, Van Zanden, 2013). Participants in this study indicated that currently the Dutch government refrains from exercising such power and merely delegates its tasks. One respondent described the government as "throwing the task of the energy transition over the fence".

The notion that interest groups engage in rent-seeking in the polder model is in line with a larger criticism on communicative rationality. Purcell (2009) argues that communicative action, even though it is not its intent, actually reinforces neo-liberalism. The neo-liberal ethic is based on the 'invisible hand' of the market, where the state plays a minimal role. This in itself does not necessarily pose a problem. However, according to Harvey (2005) neo-liberalism offers a tool for powerful interests to secure their position. Communicative rationality does acknowledge power differences, and it tries to overcome it through an in intersubjective understanding, through participants making sense together working towards the common good (Purcell, 2009). However, it thereby seems to assume that it can thereby overcome antagonism. However, if we assume that such antagonism cannot be overcome and is irreducible, then any agreement or consensus that follows is simply a temporary hegemony of some interests over others (Hillier, 2003). Communicative action thereby not only protects powerful interests but it also provides them with democratic legitimacy, as the outcome of an agreement is likely to be accepted as a decision in the best interests of all (Purcell, 2009). In that sense, it seem that participation is used to justify higher policy objectives or mobilize public support rather than being able to steer action (Bickerstaff, Walker, 2005). The problem here is that the focus in on justifying the process, rather than its outcome. All in all, communicative rationality, especially the consensus-

seeking element that is also present in the polder model, both preserves and legitimates the status quo.

This argument is in line with the criticism that the participants in the current study portrayed. It was argued that powerful industries are able to defend their own interests at the *'Klimaattafel'*. One participant stated that he was in favour of promoting dialogue with civic parties, but that he opposed climate agreements, since deals are simply being made between industries and the government. As a consequence, the polder model actually reinforces the status quo. This may explain why currently the Netherlands is lagging far behind in the energy transition. The disruption of the status quo that is needed in the energy transition is not taking place. What is required is the replacement of fossil fuel industries by renewable energy industries. For planning this implies that a counter-hegemonic planning practice is required that can destabilize the current hegemony and establish an alternative one (Purcell, 2009). Planners must understand how power structures shape the planning process and how they reinforce that planning process. If planners ignore those in power, they assure their own powerlessness (Forester, 1982).

5.3. The energy transition: a transition in governance?

The argument so far has been that the polder model obstructs radical change, because it offers a tool for regime incumbents to defend the status quo and to democratically legitimize decisions. What are its implications for leadership in the energy transition? Respondents in this study mentioned that since the polder model implies that many parties join negotiations, the power of leaders is diminished. Hence, because so many parties are involved in dialogue, the effect that an individual leader can have is marginal. Thus, if we move away from the polder model, leaders would be better able to exercise their leadership. This could be done by allowing a limited number of leaders to join the *'Klimaattafel'*. Consequently processes would be speeded up, and potentially leaders would be enabled to aim for the radical change that the energy transition requires. However, in allowing a limited number of leaders it is essential that the right leaders are included. If only leaders from regime incumbents join negotiations the current situation would be exacerbated and the status quo would be protected. Hence, it is important that the right leaders are selected. The national government of the Netherlands could play a large role in this.

The Dutch government actually realised very early on that the challenge that the energy transition poses requires a new type of governance. From 2001 onwards, a governance experiment has been taking place in the Netherlands under the flag of "transition management" (Rotmans, 2000). This type of governance constitutes a break with the consensual tradition of policymaking in the Netherlands, as it focuses on frontrunners, sees radical innovation as the objective, and importantly, it makes use of a selective participatory

approach (Loorbach, 2010). In the transition management model there is a commitment to long-term goals. Positive visions of the future outline these goals, and transition pathways are established to determine how these goals can be achieved. In theory it thereby constitutes a new development in policymaking, but it is questionable whether in practice a break has been signified (Loorbach, 2007). For example, it was argued throughout this research by participants that the Dutch government lacks a clear vision and framework in the energy transition. Perhaps, the Dutch government has realised this, given that the '*Klimaatwet*' has been signed recently, in which it has been established that the energy system should be completely CO_2-neutral by 2050. Hence, it has committed to long-terms goals which transition management advocates. Whether the transition pathways have been formulated sufficiently remains to be seen in the near future.

However, more importantly, the Dutch government has refrained from the selective, frontrunner-oriented approach that transition management advocates (Loorbach, 2007). Rather, the process used was characterized by a stakeholder-network and consensus approach, which implies that it has not moved away from the polder model. Consequently, there has been a large representation of business and industry and a relatively low involvement of science, intermediaries and NGOs in the process (Loorbach, 2007). Hence, there has been a focus on regime incumbents. For example, a Taskforce has been assigned specifically for the energy transition. Remarkably, the chairman of this Taskforce was the CEO of Shell Netherlands. Again, the problem with a focus on regime incumbents is that it risks incremental innovation rather than contributing to structural change (Kemp, Smith, 2008). Regime actors will advocate incremental innovation, as it implies current structures will remain in place. Such incremental innovation is insufficient in the energy transition, as the focus in on transforming rather than transitioning (Loorbach, 2007). This is in line with the argument of the current study, namely that transformative leaders are required instead of transformational leaders. All in all, the transitions approach risks being captured by the incumbent energy regime, thereby undermining the original objective of radical change (Kemp, Smith, 2008).

The point here is that the transition management model seems to neglect the power and politics that is present in trying to achieve the structural change that is needed in the energy transition (Kemp, Smith, 2008). Power differentials should be embraced, which can be done by reconsidering the role of the Dutch government as '*spelverdeler*'. Its power is needed to balance competing interests and to reduce obstructionist behaviour (Prak, van Zanden, 2013). Currently this balance lacks, given that regime incumbents have too much power and thereby hinder radical change. As a consequence, leaders outside the regime incumbents are not equipped with the power they need to foster the energy transition. This may explain why participants in the current research felt constrained to exercise their

leadership and experienced the institutional context in the Netherlands as a barrier. To improve the current situation, the Dutch government should become more dominant as *'spelverdeler'*. Currently, according to respondents, it is too much focused on garnering public support rather than achieving climate goals. Hence, it stays too close to the polder model. Instead, it should seek to satisfy the two most important conditions of transition management. First, a clear vision should be established, which perhaps will be accomplished through the recently signed '*Klimaatwet*'. Second, the government should select the right leaders, not merely from regime incumbents but also from NGOs, science, small and medium-sized enterprises, and sub-national government agencies. Though such selection is a political issue, it is required for radical innovation. It may empower leaders in this research to effectuate the change that is needed.

As planners we can learn important lessons from the current energy transition in the Netherlands. Most notably, planners should be wary of their faith in communicative action. Though participation is very important in dealing with the complexity of transitions, it is important to realize that participation is a means, not an end in itself. It should not merely be used to democratically legitimize decision-making, it should also contribute to effective outcomes. In that sense, we as planners should not only be process-oriented, but also goal-oriented. The societal challenges that we face may require new modes of governance which aim for radical change, rather than incremental improvements. Transition management may offer such a powerful, if it is operationalized in the right manner. Furthermore, as mentioned earlier on, as planners we should embrace power differentials. Rather than mitigating power, planners should make sure power is distributed adequately. In planning practices, planners should empower the right leaders, and embrace the role that leadership can play in the energy transition. It is not only important how many stakeholders are included in planning practices; much more it is important who is included. If we as planners include the right stakeholders we may enable effective leadership in the energy transition.

6. Conclusion

The Netherlands still has a long way to go in the energy transition. It has been argued here that for the energy transition to occur, not only technological innovations are required, but more importantly, individual behaviour needs to be changed accordingly. The energy transition thereby poses an adaptive challenge. Since leaders possess a greater capacity to bring about change, studying leadership in the energy transition is essential. Specifically, transformative leaders are required who disrupt the status quo and aim for societal goals, and value-based leaders are required who are both principled and pragmatic and establish and share a coherent vision. The current study has taken a value-based approach to

leadership which implies the incorporation of subjective motives, values and vision of leaders. Using the four-quadrant model of leadership, it was analyzed in which respects leaders are stimulated to exercise their leadership and in which respects leaders experience constraints. It was found that participants in the current study: possessed the necessary values and passions to be active in the energy transition; contributed to a common vision in their organization; used many platforms to share their vision; used several tactics to translate their vision into action; showed signs of being both *network shuttles* and *visionaries*; felt stimulated by the context of their organization to exercise their leadership; and experienced rigidity of institutions and sought ways to circumvent such rigidity e.g. by building bridges between different networks.

The main conclusion of this research is that leaders saw the institutional context in the Netherlands, in particular the polder model, as a constraining factor in the energy transition. The polder model with its focus on consultation and consensus-seeking allows regime incumbents to protect the status quo and to democratically legitimize it. It thereby hinders the radical change that is required in the energy transition. Furthermore, since negotiations include so many parties, the effect that an individual leader can have is marginal. Therefore, it is argued that we should move away from the polder model. In doing so, the Dutch government should reconsider its role as *'spelverdeler'* and be a more dominant player in the energy transition. Specifically, it should provide a more clear vision and framework for the energy transition, which currently lacks according to participants in this study. Additionally, it should apply the selective, frontrunner-oriented approach that transition management advocates by including leaders from outside the regime incumbents in negotiations. Furthermore, some recommendations for planners have been put forward. First, the finding that the polder model serves as a barrier reminds us to be wary of our faith in communicative action. Though stakeholder involvement may help to deal with the complexity of transitions, participation should be seen as a means, not an end in itself. Importantly, it tends to neglect the power and politics that are omnipresent. Hence, the societal challenges that we face require us to reconsider our role as planners. Rather than merely including as many stakeholders as possible in planning practices, we should focus on which stakeholders should be included. Consequently we may contribute to effective leadership in the energy transition.

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Appendices

Appendix A: Interview questions

<u>Introductie</u>

1. Zou u kort uw functie binnen uw organisatie kunnen omschrijven?

2. Op welke manier bent u betrokken bij de energietransitie?

3. Wie beschouwt u als de voornaamste leiders in de energietransitie in Nederland? Opereren zij in de wetenschap, overheid, markt of elders?

4. Wat is uw mening over de huidige vooruitgang in de energietransitie in Nederland? Wat gaat goed en wat kan er verbeterd worden?

<u>Inhoudelijk</u>

5. Ziet u de energietransitie als technische of adaptieve uitdaging/challenge?

6. Hoe groot acht u het belang van leiderschap in de energietransitie?

7.1 Hierna volgen enkele stellingen over uw type leiderschap. Positioneer uzelf tussen de twee extremen.

Samenwerkingsgericht	o o o o o o o o o o	Zelfstandig
Pragmatisch	o o o o o o o o o o	Focus op hoger doel
Stabiliteit	o o o o o o o o o o	Verandering
Doelen organisatie	o o o o o o o o o o	Maatschappelijke doelen
Doelgericht	o o o o o o o o o o	Procesgericht
Exploiteren kennis	o o o o o o o o o o	Creëren van kennis
Actief in bestaand netwerk	o o o o o o o o o o	Op zoek naar nieuwe netwerken
Gericht op het nu	o o o o o o o o o o	Gericht op de toekomst
Doener	o o o o o o o o o o	Denker

7.2 Hieronder volgen zes verschillende types leiderschap. Geef aan met welk van de types u zich het meest kan associëren.

Type leiderschap	Kenmerken
1	Focus op regels, stabiliteit, feitgericht, zelfstandig, verandering tegenwerken
2	Samenwerkingsgericht, verandering verwelkomen, inspireren van mensen, negeren van instituties
3	Focus op hogere doel, toekomstgericht, minder oog voorbestaande regels en problemen
4	Pragmatisch, gericht op het nu, ordelijk, feitgericht, focus op proces
5	Focus op eigen leiderschap, gebruik van meerdere benaderingen, exploiteren van nieuwe netwerken, erkennen van machtsstructuren
6	Doelgericht, exploiteren van bestaande kennis, overtuigend implementeren van eigen visie en strategie

Value-based leadership

8. Wat zijn uw idealen betreffende hernieuwbare energie? Wat is uw visie voor de toekomst? In welke mate communiceert u deze idealen met uw collega's?

9. Heeft u naar aanleiding van de toenemende interesse van onze samenleving voor de energietransitie ook uw idealen aangepast in de afgelopen jaren?

10. Hierna volgen enkele stellingen betreffende uw visie op de energietransitie. Geef aan in hoeverre u het hiermee eens bent (1 = volledig mee oneens, ... , 5 = volledig mee eens).

Visie energietransitie	1	2	3	4	5
Voor de energietransitie zijn technologische innovaties en uitbreiding van kennis nodig					
Voor de energietransitie is een verminderde consumptie van energie nodig					
Ontwikkelde landen moeten een grotere rol spelen in de energietransitie dan ontwikkelende landen					
Nederland moet een frontrunner zijn in de energietransitie, ook als dit een grotere investering vergt dan gemiddeld in Europa					
De centrale overheid moet veel controle uitoefenen op de energietransitie					
De energiemarkt is zelf in staat om de energietransitie te bewerkstelligen					
Om de energietransitie te realiseren is het nodig dat hernieuwbare energie goedkoper wordt dan fossiele brandstoffen					
De energietransitie kan alleen bewerkstelligd worden ten koste van economische groei					
De verantwoordelijkheid in de energietransitie ligt bij overheden					
De verantwoordelijkheid in de energietransitie ligt bij de burger					
De energietransitie is een gezamenlijke verantwoordelijkheid van burgers, overheden en private partijen.					

Value-oriented model of leadership

'I-dimensie'

11. Wat is uw diepste drijfveer/motivatie om actief te zijn in de energietransitie? Waarom werd u actief op het gebied van energie?

'We-dimensie'

12. Hoe draagt u bij aan een gedeelde visie binnen uw organisatie en hoe mobiliseert u anderen rondom deze visie?

13. In welke mate bent u op de hoogte van de idealen/het wereldbeeld van degenen aan wie u leiding geeft? Conform welke waarden denkt u dat zij handelen (eigenbelang, hedonistisch, altruïstisch, milieu)?

14. Ervaart u zo nu en dan frictie tussen uw idealen en de idealen van uw collega's? Zo ja, hoe gaat u daar dan mee om?

'IT-dimensie'

15. Op welke manier probeert u het gedrag van andere mensen binnen uw organisatie te beïnvloeden (e.g. financiële compensatie of respect/erkenning)? Wat voor tactieken hanteert u?

16. In welke mate voelt u zich belemmert of gestimuleerd binnen uw organisatie om uw leiderschapsrol uit te oefenen in de energietransitie?

17. Op welke manier kunt u ook buiten uw organisatie impact hebben op de energietransitie?

'THEY-dimensie'

18. Denkt u dat de institutionele context in Nederland, met name overheidsbeleid, de energietransitie stimuleert of juist belemmert *("glass ceiling of institutions")*?

19. Welke partijen zouden de grootste rol in de energietransitie moeten spelen (marktpartijen, burgerinitiatieven, centrale overheid, lokale overheid)? Welke rol moeten zij spelen?

20. Op welke manier kunt u als individu impact hebben op de institutionele context?

21. Wat is uw relatie met andere organisaties en netwerken die actief zijn in de energietransitie? Hoe bouwt u bruggen tussen verschillende netwerken?

Conclusie

22. Zijn er nog belangrijke kwesties die u aan het licht wilt brengen die nog niet behandeld zijn?

Appendix B: Letter of consent

"Transformatief leiderschap in de energietransitie"

Beste X,

Allereerst hartelijk dank voor de bereidheid om deel te nemen aan het onderzoek ter afsluiting van de Master Environmental and Infrastructure Planning aan de Rijksuniversiteit Groningen.

In dit onderzoek worden leiders in de energietransitie bevraagd over hun perspectief op de energietransitie, motivaties, alsook de wijze waarop zij leiderschap uitoefenen. Dit interview zal semigestructureerd zijn. Dit betekent dat de vragen al zijn opgesteld, maar indien daartoe aanleiding is kan er afgeweken worden van deze vragen. Het interview zal een halfuur tot een uur duren, afhankelijk van uw wensen.

Door onderaan het formulier te tekenen, tekent u voor de volgende zaken:
- Uw antwoorden zullen alleen voor dit onderzoek worden gebruikt. Na afloop van huidig onderzoek wordt de vergaarde data vernietigd.
- U heeft de mogelijkheid gehad de vragen voorafgaande aan het interview in te zien.
- U kunt te allen tijde besluiten te stoppen met het interview of aangeven dat u een moment pauze wilt inlassen.
- U gaat akkoord dat het interview wordt opgenomen.

Indien u in de verwerking van het onderzoek anoniem wilt blijven, dan kunt u dit aangeven door het onderstaande rondje aan te kruisen:
- ○ Ja, ik wil graag anoniem blijven

Voor meer informatie kunt u contact opnemen met onderstaand persoon.
Hopende u hiermee voldoende te hebben geïnformeerd,
Sander Elverdink, telefoonnummer: 0627468803, e-mailadres: sanderelverdink@gmail.com

Handtekening:

Functie: