New Kid on the Grid: Energy Communities in a Multilevel Context

A qualitative case study into the suitability of supporting policy for energy communities across the European, Dutch national and regional policy-making level.

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Abstract

Energy communities are not a new concept, but their significance has risen over the last decades, especially in the context of the increasing role of renewable energy. This is because energy communities can provide many benefits, from technical advantages for the electricity grid to relieving resistance against renewable energy projects to increased social cohesion among citizens. To realize their potential, energy communities need policy support, which currently exists on three policy-making levels: European, national and regional. Looking at these levels of policy-making in a Dutch context, this study aims to assess to what extent these policies are suitable to support energy communities. I argue that for policies to be considered suitable to support energy communities, these policies need to have a broad and holistic perspective on energy communities and should be coherent across policy-making levels.

To assess to what extent policies are holistic and coherent, an analytical framework is created based on insights by Walker (2011). This framework is used to identify six interpretations of energy communities at the three policy-making levels: as actor, as scale, as place, as network, as process and as identity. The more interpretations can be identified on a particular policy-making level, the more holistic the policies are. The more overlap between policy-making levels, the higher the coherence. Combining document analysis with interviews, it is found that on the European level three interpretations can be identified, while four interpretations are found on the national level four and all six interpretations can be identified on the regional level. This means policy support for energy communities cannot be considered holistic on the European and the national level, but can be on the regional level. Furthermore, policy support is not coherent across policy-making levels, as the number of interpretations varies across levels, as well as which interpretations are identified. This may have implications for policymakers, as they may need to broaden and integrate policies to better support energy communities.

1. Introduction

In 2015 the Paris Agreement was signed, as a next step in the attempt to limit global warming to a maximum of 2°C. It was perceived as a landmark in the fight against climate change and led to countries having to set national targets and set out trajectories on how to reach them. In The Netherlands this sparked the creation of the Dutch Climate Agreement, in which the goal of 49% CO_2 reduction was stated, as well as measures to reach this target. Many of these measures required further implementation on a regional scale, for which the Regional Energy Strategies (RES) were created. The RES can be seen as a vehicle for organizing local deliberation and for local energy policy-making.

Although the Climate Agreement and the RES, along with policies on the EU level, add up to three policy-making levels of climate and energy ambitions, it remains hard to realize these ambitions in practice. This is especially the case when it comes to renewable energy projects, which often face resistance, for example with people being in favour of wind energy unless it is in their vicinity. Letting these citizens play a role in renewable energy project development and letting citizens profit from it can lead to more local acceptance. A useful vehicle for promoting local participation and local profit is an energy community (Hoppe et al., 2015). Energy communities can be understood as a form of collectively organizing energy-related activities around open and democratic participation by and for members (Roberts et al., 2019). The potential for energy communities is deemed large and they are expected to play a significant role in the future energy system (Caramizaru & Uihlein, 2020). The number of energy communities and the amount of citizens participating in them has been increasing in Europe (Nouicer et al., 2020). In the future, up to 83% of EU households will potentially be an active consumer partaking in, for example, energy production (Kampman et al., 2016). However, for this potential to become reality, policy support is needed (Caramizaru & Uihlein, 2020).

Policy support already exists on three policy-making levels: on the European, national and the regional level. On the European scale, directives from the 2019 Clean Energy Package (CEP) propose definitions to provide energy communities with an enabling framework. The Dutch Energy Law aims to transpose the CEP directives and, as such, help facilitate energy communities. Moreover, the Dutch Climate Agreement sets a target for 50% renewable energy to be locally-owned, thereby stimulating energy community-like initiatives. On the regional scale, facilitating policy for energy communities can be found in the RES. However, merely having policies in place is not a guarantee that energy communities are truly supported. Given the potential that energy communities have, and the fact that new policies are in place, it becomes very important to examine whether these policies are suitable to support energy communities. Therefore, the main question to guide this study is: To what extent are the policies aimed at facilitating energy communities on multiple levels of policy-making suitable to do so? To answer this question, the policies at all three policy-making levels are analysed to see how suitable they are and to what extent policies are coherent across these levels.

This will be done by doing a qualitative study, looking at a range of policy documents, reports by relevant stakeholders, as well as by conducting interviews with stakeholders. To analyse these documents and interviews, a framework is created that helps identify various interpretations of energy communities. These interpretations are analysed for each policy-making level to assess the extent to which policies are suitable. Moreover, these interpretations are analysed across policy-making levels to assess the extent to which they are coherent.

The answers to these questions will provide important insights for policymakers at three policy-making levels. At the European level this may provide insights that can be relevant for the transposition of the Directive aimed at supporting energy communities, which is still underway in some Member States. Moreover, even when Member States already implemented this Directive, continuous stepwise learning and improvement is likely still needed (Frieden et al., 2020). At the national level, because the Energy Law is still under final review and implementation has yet to begin. At the regional level, because the RES has only been finalized recently, is under constant review and has to be updated every two years. This study is also relevant from an academic point of view, as this study links theory regarding the supporting of energy communities to EU policy and, more specifically, in a multilevel setting. This has not been done before in this way, particularly not in a Dutch context.

The thesis is structured as follows: In the following section a more detailed description is provided of what energy communities are, what their benefits are and how policy-making can support them. After that, the research approach, the analytical framework, the data gathering process and the case selection are further explained. The results section will provide a more elaborate description of the relevant policies, what interpretations of energy communities we can identify and how suited supporting policies are. Subsequently, the separate analyses are combined in order to assess whether policies on the multiple policy-making levels are coherent. The findings will be used to provide conclusions and they will be interpreted and put into perspective in the following discussion section.

2. Theoretical framework

2.1. Energy Communities

It is increasingly understood that the needed development of renewable energy requires the energy system to be more decentralized (Goldthau, 2014; Tomain, 2015; Wirth, 2014). Rather than consisting solely of large and centralized energy production, the energy system will and does include smaller and geographically distributed units (Altmann et al., 2010). This smaller-scale and distributed nature of the energy system provides more room for, and goes hand in hand with, bottom-up forms of energy production, nearly always in tandem with energy communities (McKenna, 2018). Distributed energy supply is becoming increasingly common and energy communities have been getting an increased amount of attention among scholars and policy-makers (Koriala et al., 2016). The concept of the energy community can be considered

synonymous or closely related with concepts including low carbon community groups (Parag et al., 2013), community energy systems (Koirala, 2017), or place-based community-led energy initiatives (Parkhill et al., 2015). Moreover, scholars have use various conceptual angles to interpret energy communities, ranging from concepts such as active citizenship (Van Aalderen & Horlings, 2020; Van Dam et al., 2014), social innovation (Kemp et al., 2001) and bottom-up development (Miazzo & Kee, 2014).

This divergence in names and conceptual interpretations is hardly remarkable as the concept of 'community' in itself already has a rich history of interpretations (Delanty, 1998). This is not only the case with the concept of community in itself, but also in relation to energy. Community-oriented approaches to energy have roots tracing back to the 1970s, including literature on 'soft energy paths' (Lovins, 1977), small-scale developments (Schumacher, 1974) and Appropriate Technology (Dunn, 1978). The range of similar concepts presented earlier as well as the conceptual roots share common features, yet specific interpretations and foci differ across the various academic disciplines. It can be noted that each discipline has its own perspective on the concept of energy communities, ranging from technical law-oriented interpretations to more sociological group-trust interpretations. Given this wide range it is essential to depict what interpretation is used in this study. This will be done in the following section by briefly exploring the different aspects that together make up an energy community.

2.2. Energy Communities: Features

First of all, an energy community is inherently made up of actors. Whereas traditionally activities in the energy system are left to large commercial actors and individual citizens are merely passive consumers, energy communities represent a shift in this paradigm. Energy communities specifically include citizens and households not only as consumers, but also in the role of investors or as recipients of financial gains and societal benefits. Moreover, households can be energy producers, distributors, aggregators, storers and sellers of energy (Koirala & Hakvoort, 2017). Besides citizen or households, other types actors can be involved as well. These actors include institutions providing (additional) financing for community project development, commercial energy market actors, governments, system operators, energy service providers and intermediaries or facilitators (Koirala & Hakvoort, 2017). An important characteristic of energy communities is the idea that all actors in the community have a shared vision or at least do not have fundamentally opposed objectives (Parkhill et al., 2015).

Energy communities can engage in a wide range of activities relating to heating and electricity. Energy communities are often active in energy supply, producing electricity using wind turbines, solar photovoltaics or hydro turbines (Romero-Rubio & de Andrés Díaz, 2015; Walker, 2011). Communities are also often found engaging with the demand side through implementing energy efficiency schemes and technologies among their members (Oteman et al., 2014). Besides being active in strictly supply and demand activities, communities can also be involved in electricity distribution, aggregation and storage (Koriala et al., 2016). These activities are relatively rarely

done in isolation from the wider electricity grid, as these communities often still rely on the grid for providing additional supply or demand (Walker, 2011). Other activities that energy communities can engage in are insulation activities, thermal imaging, seminars on environmental footprints or media coverage on the topic (Seyfang et al., 2013).

As a group of actors engaging in different activities, energy communities can take on multiple legal forms. A commonly used form is a cooperative, which is an association of natural or legal persons with a common goal and purpose working together in a jointly owned and controlled operation (International Cooperative Alliance, 2020). Next to cooperatives, energy communities can also take the form of development trusts, community charities or a form in which local community organizations own shares in commercial energy projects (Walker, 2008). Moreover, some energy communities create social enterprises to manage energy production facilities or infrastructure, or energy service companies are set up in which local governments play a large role (Van der Horst, 2008; Walker, 2011). These different forms of organization are relevant for energy communities, as they are related to the scale of communities. Energy communities operate on a range of scales, and different legal forms are suitable for different scales. For small-scale communities with strong social ties, a cooperative form would be most suitable, whereas a social enterprise might be better suited for larger communities' activities.

2.3. Energy Communities: Working Definition

There is a wide range of features tied to the concept of energy communities and there is not one archetype of an energy community. This could be considered harmful for the concept from a normative standpoint, as it can create a shallow and hollow definition. (Walker et al., 2010). However, this adaptability of the definition allowed for experimentation with different models of community energy and accommodated a necessary diversity (Walker et al., 2007). Nonetheless, for this study it is valuable to draw on a single understanding of the concept, for which the following definition formulated by Oteman, et al. (2014) will be guiding:

> *Energy communities "can be defined as decentralized, non-governmental initiatives of local communities and citizens to promote the production and consumption of renewable energy." (p.2)*

Given the development of technical possibilities and the increase in salience of the topic, this definition from 2014 captures the essence and core elements of what energy communities constitute, but not the full range of possible activities performed by energy communities in 2021. Therefore, it must be noted that although this definition includes key features, the activities put forward are by no means exclusive. Moreover, proposing this definition as a guideline does not include strict criteria as to what an energy community constitutes. There can be communities that do not strictly adhere to the definition yet could still be considered an energy community.

2.4. Energy Communities: Benefits and Rationales

Now that the definition of energy communities is established, I will turn to the benefits of energy communities. It must be noted that community-based decentralized energy systems may also involve disadvantages, such as a lack of economies of scale (McKenna, 2018). Also, the introduction of more decentralized or community-based actors will require changing the way we think, not the least regarding spatial planning (Adil & Ko, 2016). However, there is a multitude of clear benefits to an energy system that includes more decentralized actors and, more importantly, more community-based energy actors. These benefits are simultaneously the rationales behind energy communities, which will now be covered along the lines of the actors that may hold the different rationales: actors engaged in the development of energy projects, policymakers and citizens. Naturally, these rationales are not mutually exclusive: what is beneficial for citizens or project developers is likely to be beneficial for policymakers overseeing the energy landscape as a whole.

First of all, there are multiple rationales and benefits for actors that are engaged in the development and operation of energy projects. Firstly, coupling the development of a project to a citizen base can provide access to capital, as either the citizens involved bring in a part of the funding or as community-based projects can have access to different and additional financial tools or subsidies (Barry & Chapman, 2009; Brummer, 2018; Yildiz, 2014). Secondly, community-based projects increase public acceptance for renewable energy projects. For project developers this has the additional benefit of leading to less resistance against and problems with obtaining permits for the project (Haggett et al., 2013; Schreuer & Weissmeier-Sammer, 2010; Walker, 2008). Thirdly, energy community projects put pressure on incumbent grid operators or developer to be more facilitative to renewable energy, a form of political opposition power (Blanchet, 2015). Fourthly, decentralized energy projects are important sites for innovation and can also support the dissemination of energy grid innovations (Howard, 2014; Olesen et al., 2004). Moreover, it is inherent to energy communities that they can provide flexibility to the larger grid, as communal grids can help balance supply and demand (Reijnders et al., 2020) Lastly, project developers can profit from local knowledge when designing their project (Breukers & Wolsink, 2007).

Policymakers may be in favour of energy communities for multiple reasons. Firstly, developing renewable energy through forms of community may lead to an increased level of support and more local acceptance for such projects (Agterbosch, Meertens, & Vermeulen, 2009; Hoppe et al., 2015; Klein & Coffey, 2016; Olesen et al., 2004; Schreuer & Weismeier-Sammer, 2010; Walker, 2008; Warren & McFadyen, 2010). In other words, one can say that community-based projects are able to enhance the democratic legitimacy of energy projects (Breukers & Wolsink, 2007). Increased support and legitimacy makes realizing renewable energy goals more likely (Brummer, 2018). Secondly, getting in touch with energy communities tends to increase the awareness and knowledge about renewable energy among local citizens (Blanchet, 2015; Smith, 2012; Walker, 2011). Thirdly, energy communities generating and consuming energy locally has

grid benefits, as the energy grid does not have to be reinforced in a costly manner (Barry & Chapman, 2009; Warren & McFadyen, 2010). Lastly, Blanchet (2015) finds that energy communities can provide necessarily political opposition power when they make sure energy issues are on the local agenda, thereby pushing local authorities to actively decide on the shape of the future energy system.

Lastly, I turn to the rationales that citizens may hold for being in favour of energy communities and for getting involved. Citizens can hold rationales that can be roughly divided into three categories, those that revolve around economically-oriented considerations, environmental considerations and social considerations. An economic incentive for citizens is the investment opportunity that communal energy projects can provide. Citizens may see energy communities merely as a way to access a profitable investment opportunity, in which case they might simply be interested in the return on investment (Fleiß et al., 2017; Maruyama et al., 2007). Moreover, in some cases energy supply through community-based projects can lead to a decrease in energy costs (Walker, 2008). Next to these economic considerations, citizens may see energy communities as a way to channel their sustainability efforts and as their contribution to environmentally friendly energy generation and as an ecologically sensitive investment (Agterbosch et al., 2004; Flieger & Klemisch, 2008; Hoppe et al., 2015; Maruyama et al., 2007). Citizens may also be interested in participating in energy communities for social considerations. Energy communities, as a form of active citizenship, can enhance social coherence, community cohesion and a citizen's sense of community (Boonstra & Boelens, 2011; Dóci & Vasileiadou, 2015; Koirala, 2017; Rakos, 2001; Rogers et al., 2008; Walker et al., 2010). Furthermore, participation in energy communities can also provide people with a sense of gratification and it can be a way to channel one's urge to perform a civic duty (Funk, 2002; Hoffman & High-Pippert, 2010). Additionally, being involved in energy communities provides citizens with a tool to exert control over their own surroundings (Oteman et al., 2014; Walker, 2008), and can empower citizens in an more general sense (Boonstra & Boelens, 2011; Flieger & Klemisch, 2008). Beyond individual social benefits, engaging in energy communities can lead to less money flowing away from communities to energy providers elsewhere, and conversely to more local income (Hoffman & High-Pippert, 2010; Walker, 2008). Furthermore, Breukers and Wolsink (2007) and Devine-Wright (2005) find community energy to contribute to local community regeneration.

2.5. Energy Communities: Policy Support

Now that it is established what is meant when we refer to energy communities, as well as the rationales that different stakeholders might hold regarding energy communities, I turn to what the literature indicates as to how these energy communities can be supported. The literature shows that energy communities are supported best by policies that are holistic and coherent across policy-making levels. This will now be covered in more detail.

2.5.1. Holistic

The literature on energy communities provides insight into what factors are conducive to energy communities, as well as barriers that they may face. There is a broad range of characteristics that improve occurrence and success of energy communities, which include cultural, organizational, political, legal, and economic characteristics (Oteman et al., 2014). This shows that not only are energy communities deemed to constitute a set of diverse characteristics, but also that all are relevant for better supporting energy communities. Next to these relevant characteristics of energy communities, there are certain conditions that are conducive to the establishment of community energy projects. These conditions range from embedding communal energy into mainstream spatial procedures to mobilisation of financial resources, and to the inclusion of multiple cultural factors (Schreuer & Weissmeier-Sammer, 2010). Alongside conducive factors are barriers that energy communities face. These difficulties range from lack of funding, to dependency on volunteers, to the risk of losing local support or being alienated from their community if they professionalize too much. The difficulties are not only different, but of a different nature as well, as some barriers apply to energy communities as a market actor, whereas others are more oriented towards energy communities as a social construct (Hoppe et al., 2015). The above indicates that one should not look at enabling energy communities through a narrow lens, but rather apply a broad perspective, looking at all aspects and features of energy communities and see these as a whole.

The importance of looking at all aspects of energy communities is also highlighted in one of the key articles in this field of literature by Seyfang et al. (2013). In their article, the authors try to depict what energy communities generally look like and what their strengths and weaknesses are. The authors end by highlighting key issues regarding the further development of energy communities: the great diversity in the community energy sector and that, although energy communities are market actors, their civil society basis is important for their success and distinction. Other studies also emphasize the importance of recognizing the great diversity in the sector and that different kinds of support should be combined in order to respect the diversity in objectives and motivations in energy communities (Hargreaves et al., 2013). In the article, the authors also emphasize the need for different kinds of policy support combined, that respects the great diversity in objectives and motivations for such community-based energy projects.

Policy support that respects this diversity should ideally be done coordinated and integrated thinking among government departments (Seyfang et al., 2013). Different government departments, each with their respective focal points, knowledge and priorities, all support a particular aspect of energy communities. Joined-up thinking among them would take into account all the different aspects of energy communities as an integrated whole. This can also be viewed through the lens of what roles and tasks local governments should take on when aiming to support energy communities. It is stated that provincial governments in The Netherlands can take on roles such as a political-administrative role or a disseminative and connective role, as

well as tasks including coordination, framing and mobilization and recruitment (Van Aalderen & Horlings, 2020). When examining these roles and actions, it is found that the more roles and tasks are taken on, the more thorough public leadership is and the better citizen-led wind energy projects are supported. Moreover, Van Aalderen and Horlings (2020) state that governments aiming to improve their support through policy-making should include more roles and tasks in their approach. Moreover, the resulting policies should also cover multi-criteria appraisals (Seyfang et al. , 2013). This is also emphasized by Hielscher et al. (2013) who point to the need for policies to include a wide range of new sociotechnical arrangements, from funding schemes to democratic inclusion of energy communities. To conclude, policies should be created through an integrated approach across multiple government departments and roles, and these policies should cover multiple aspects of communities.

What all the literature appears to suggest without explicitly stating so, is that policy support should be holistic. An holistic approach to energy community policy implies that policy-makers not only look at all the different aspects of energy communities, but also see them as a broad and integrated whole. An important element of an holistic approach is that all aspects are interrelated and that the whole is more than the sum of the parts. In other words, a single aspect should never be considered without the whole it is part of. For example, for energy communities this would mean that they are never considered as merely an energy market actor without acknowledging the social aspects that are inherently part of energy communities and vice versa.

2.5.2. Coherence

Coherence across subnational, national and supranational policy-making levels can be considered to mean that different levels of policies 'go together' and that they share a set of ideas, aims or objectives (May et al., 2006; Van Bommel & Kuindersma, 2008). Within and throughout this hierarchy of policy-making levels, coherence in policy aims, targets and tools is considered to be a prerequisite for successful policies (Howlett, 2009).

In a study involving multilevel climate policy-making, Monni and Raes (2008) focus on the Finnish national and local context in relation to EU level policy. They find that there is a contradiction between targets on the EU and national level and the inaction on the local level. The authors link this contradiction to local circumstances posing barriers for the implementation of EU and national climate policies. Moreover, they identify that increasing coherence across the policy hierarchy can improve implementation on the lowest policy-making level. They conclude that coherence across the multiple levels of climate policy is needed to ensure effective greenhouse gas emissions reduction. A study on policies for sustainable development brings forward similar findings. The study finds that sustainable development strategies are rarely integrated among levels of government and that this hampers effectiveness. Increased attention should be paid to fostering consensus, engagement between levels of government and transparency in order to improve both horizontal and vertical policy integration. Thus, improving horizontal and vertical

coherence is necessary for sustainable development to be realized (Usubiaga et al., 2012). The same conclusion can be drawn from the work of Berger and Steurer (2009).

The need for policy coherence is not limited to climate and sustainability policies in a general sense, rather it translates to energy policy as well. Brisbois (2020) finds that the transition to more decentralized electricity systems imposes a need for rescaling many governance functions. In order to do so in a responsible way, certain issues have to be kept in mind of which coherence is shown to be one. Not only is coherence considered an essential element across different levels of government, but this also extends to the level of the citizen. In order for successful citizen involvement to be possible, multi-scalar coherence is a prerequisite (Kokx & Van Kempen, 2010). Energy communities are a form of citizen involvement as well and the need for policy coherence also applies to their context.

For energy communities to flourish, they need institutional space to develop their activities. Oteman et al. (2014) find that for energy communities to have institutional space, it is necessary that a dominant discourse is aligned across government levels. In other words, energy communities benefits most from a situation where multiple levels of governance share a common vision on energy community initiatives. The more rationales are coherent across levels of government, the more this "creates opportunities for community initiatives" (p.15). Similar conclusions are drawn by Dobravec et al. (2021) and Wu et al. (2016). If policy is not coherent across levels, and goals and rules are conflicting, it challenges the governance system as a whole and can lead to inefficient policy implementation as power struggles between authorities arise (Nilsson et al., 2012; Sandström et al., 2020; Söderberg, 2016).

2.6. Policy support: holistic and coherent

What we find across a range of studies regarding accommodating and facilitating energy communities is that support must be holistic and coherent. An energy community must not be considered as merely an energy market actor, nor as merely an ideological group or a social phenomenon. Each energy community is different and has many different aspects and characteristics. To support them and the sector as a whole, these unique characteristics should be treated as an integrated whole and supporting policies should take this into account. Moreover, this holistic perspective should ideally be coherent across the different levels of policy-making in which support for energy communities is formulated. Whether a holistic and coherent approach can be identified should indicate to what extent support policies are suitable to do so.

3. Methods

In this section I will describe how the research question "To what extent are the policies aimed at facilitating energy communities on multiple levels of policy-making suitable to do so?" will be answered. To answer this question, a qualitative case study will be done by combining document analysis and interviews.

As will be further explained in section 3.2., there are only 30 RES regions in The Netherlands. This means there are also 30 local energy community policies, thereby limiting the possible variation in policies to be studied, essentially eliminating the possibility of a large N-study. A case study approach is therefore the natural approach, which is in line with several elements of the essence of the study. Firstly, given the nature of the topic and the newly formed governance structure surrounding the RESs, the study is oriented towards hypothesis generation and identifying mechanisms and rationales, rather than strictly finding and testing causal effects. Secondly, as the context is very specific and primarily Dutch-oriented, internal validity is prioritized (Gerring, 2007). These elements point towards a case study approach being the desired research design.

This chapter is structured as follows. First the theoretical framework will be operationalized which provides the foundation for the analysis. After that, the methodological process and choices will be described, divided into three sections: Case Selection, Desk Research and Interviews.

3.1. Framework

As described in the previous section, policy support for energy communities must be holistic and coherent across policy-making levels. Therefore, in order to analyse whether policy is suited to effectively facilitate energy communities, the analytic framework must be able to capture how holistic policy-making on a particular level is, as well as being applicable to a multi-level setting. For this, a framework was created based on the insights provided by Walker (2011), who identifies six interpretations of community. I argue that these interpretations can be applied to energy communities as well, as energy communities fall under what Walker describes as "environmental and carbon-related uses of community" (p. 777). These interpretations of community are separate yet interconnected. Each of these interpretations touch on a specific angle from which community as a concept can be viewed and can each be used to describe a community. However, the explanatory power of the interpretations for the concept of energy communities increases when used in combination. In other words, their combined use is able to capture all the full scope of what constitutes an energy community. This notion of combined increased explanatory power is also underlined in later work by (e.g., Brummer, 2018). The six interpretations which constitute the analytic framework, as well as the description provided by Walker, are shown in Table 1.

Interpretation	Description
Community as actor	'The community' here is given agency, the term being used to describe a distinct actor that can make a difference, take actions of various forms, and interact with others. Often either explicitly or by implication community is meant as a category of 'the public' in which networks and social relationships of various forms connect people together.
Community as scale	Here community is seen to sit within a hierarchy of interacting scales of action. Its position is above the individual and households, but typically below the level of local government. This entails the notion of a collective, but one which is not formally part of the structures of formal government, and can therefore act independently of it.
Community as place	In popular usage and culture, 'community' usually implies a set of social relationships embedded in a particular locality—the idea of territorial community or community of locality—and this is often carried across into environmental and carbon applications, for example, in the notion of a village or town becoming a low-carbon community.
Community as network	Communities are seen as formed by networks and social relationships, but these can extend beyond specifically place-based networks. Examples would include a network of investors in a 'community' renewable energy project, or climate justice activists connected over virtual networks.
Community as process	Here community is seen as a distinctive way of acting, involving the participation of 'ordinary people' in collaborative processes, often also very 'hands-on', involving voluntary and consensual rather than coerced involvement. Within this process the quality of social relationships are seen to be important, with strong social capital and stocks of interpersonal trust being drawn on.
Community as identity	This suggests more of a way of thinking and being that people might adopt, or be expected to adopt in their every-day encounters and ways of living. This can be captured through the notion of being 'civic-minded', emphasizing collective interests beyond household and family, but below the level of the formal state.

Table 1 Six interpretations of communities by Walker (2011, p. 777-778)

It is argued that if policy support is to be holistic and coherent, it is important that the whole range of interpretations is considered when supporting energy communities and that this is consistent throughout the different policy-making levels. Applying the analytic framework to the policies under study brings this to light. The first point of analysis is the extent to which each level of policy-making can be considered holistic. The more interpretations of energy communities that can be identified in the policies at that level of policy-making, the more it can be considered holistic. In some cases an interpretation can be identified, but only partially. However, the frequency of this occurring was not high enough to warrant a more detailed scale

(e.g., a rating scale). That is why, for the sake of comparability, a binary scale was chosen to express whether or not an interpretation was identified. For a thorough analysis, not only were the boxes checked of the interpretations that are identified, but also a textual description was given. This provides more substance as to why it was decided to identify a certain interpretation in a policy. Moreover, it was not only the aim to analyse one community-related policy, rather the aim was to compare the coherence of three levels of policies towards energy communities. After applying the framework to each policy level, the level-specific findings were combined in order to analyse to what extent the checked boxes overlap. More overlap in checked boxes would mean that the policies are more coherent. It is argued that, it line with theoretical findings in the previous chapter, the more policies are coherent, the better the supporting framework is.

3.2. Case Selection

When looking at three levels of policy, two sub-European levels are involved. For these levels, this thesis looked at the Dutch context. The Netherlands has ambitious targets for climate neutrality and renewable energy, yet remains behind when it comes to the share of renewable energy, compared to other EU Member States (Eurostat, 2020). Of all Member States, The Netherlands is furthest from its renewable energy targets, with a 7.4% gap between renewable energy share and the corresponding target, while the EU average gap is 2.5% (CBS, 2019). This makes The Netherlands an interesting case, as renewable energy technology is widely available, yet the country does not succeed in realizing renewable energy projects on the ground. This may be caused by local resistance to renewable energy projects, for which we have seen that energy communities can be useful in overcoming this resistance. Studying energy communities in the Dutch context can thus prove useful and interesting.

As many measures proposed in the Dutch Climate Agreement require further regional cooperation and local implementation, the region became the primary scale for energy policy. This local implementation is realized through Regional Energy Strategies (RES). For these RESs, The Netherlands is divided into 30 regions, as visualized in Figure 1. Some regions are pre-existing and based on other administrative boundaries or networks of cooperation, while other regions are newly formed or are a combination of other pre-existing, smaller regions. These regions each form a RES, a strategy document where policy towards facilitating energy communities

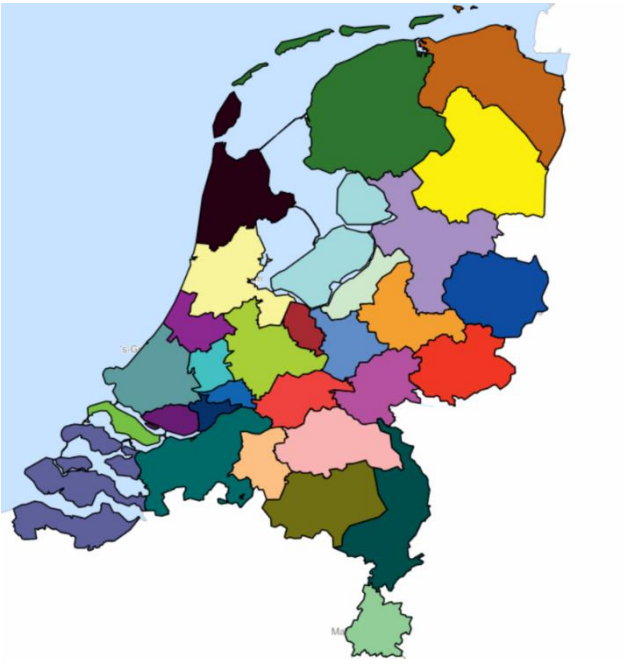

Figure 1 The 30 RES regions of The Netherlands (source: CE Delft & Generation Energy, 2020)

should be found. The RES is thus a region, as well as a document, the product of deliberation in that region.

Given the scope of this research it was not possible to look into all 30 RES' in depth. Looking at all the regions would mean a wider view of the problem at the expense of depth and thoroughness. Moreover, a qualitative research is not well suited for a selection of 30 cases. Therefore, one RES region was studied in combination with one energy community in that region. For the region under study it was important that there is enough thought given to the concept of energy communities, in order to be able to thoroughly study the interpretation in that region. To find out which in RES region the most thought was given to the topic, every RES region's strategy and related background documents were checked for the words 'community' and 'cooperative' and derivatives of those words. For each hit that was found in the documents, it was merely checked whether the word in fact referred to the concept and not whether it was a positive or negative reference in order to remain as neutral as possible. The RES region Groningen in the north east of The Netherlands was found to produce the most hits on these words, largely due to an attached document dedicated to forms of citizens participation. Apart from this attached document being a valuable source of information, a separate and dedicated shows that cooperative energy development is an important theme in the region. With such an extensive document compared to other regions, Groningen offers an optimal or most likely case for this study. One would expect a more extensive document regarding local participation to include more references to and more interpretations of energy communities. Conversely, if such references and interpretations cannot be identified in these documents, it is unlikely that they are identifiable in other regions. Other relevant aspects for selecting Groningen are that it had the most new energy communities in 2020, the most communities per inhabitant and the largest growth in energy community members (HIERopgewekt, 2021a). This makes Groningen an interesting case study. Regarding the energy community that was studied in this region, the largest energy community was selected for practical purposes: Grunneger Power.

3.3. Desk Research

The framework presented earlier was used for analysing the different energy community-related policies. In order to gather the data to fill this framework, a document analysis was done for the policies aimed at energy communities at the European, the national and the regional level. For each level two types of sources are considered. First of all, the primary sources are the policies relating to energy communities, as shown in Table 2. However, as a form of triangulation to increase reliability, secondary sources were used as well. These secondary sources consist of reports by relevant stakeholders which provided interpretations of the legislation or policy and discuss what the legislation does or does not allow.

For the European level this analysis focuses on the Clean Energy Package (CEP), as this is the most recent set of European energy policies that has already been implemented. The CEP introduces two concepts in which energy communities can be recognized. These two concepts

can be found in the Renewable Energy Directive (RED) and the Electricity Directive (EMD) and are respectively the Renewable Energy Community (REC) and the Citizen Energy Community (CEC). At their core, both concepts describe "a way to 'organise' collective cooperation of an energy related activity around specific ownership, governance and a non-commercial purpose" (Roberts et al., 2019, p. 7). However, CECs cover a wider range of energy-related activities, for example including energy aggregation and storage. Moreover, CECs are not specifically oriented at renewable energy. Given the wider definition of CECs, RECs can be seen as a subset of CECs (Roberts et al., 2019). The focus in this thesis is on the latter form of energy communities, the CECs, as these encompass the widest range of communities.

For the national level, there are several relevant documents. The foremost relevant source is the new Energy Law. This law is to a large extent the transposition of many regulatory changes under the CEP. The Energy Law is not yet in effect, at it is expected to be sent to parliament in the first quarter of 2022. However, a draft version is available containing several passages on energy communities, as well as the input on the consultation by several stakeholders. It is not expected that significant changes will be made to the specific passages and the draft version thus sufficed for interpretation, along with the Dutch Climate Agreement and reports by relevant stakeholders.

Policy-making level	Primary sources
European	Electricity Market Directive 2019/944
National (The Netherlands)	Climate Agreement Energy Law
Regional (Groningen)	Regional Energy Strategy Groningen

Table 2 Primary sources for each policy-making level

3.4. Interviews

For the European and the national level there are primary sources found in legislation and policies, as well as secondary sources in reports by stakeholders. However, for the regional level there was only the RES and there are no secondary sources available. Therefore, additional information was needed to do a comprehensive analysis of how energy communities are interpreted on a regional scale. This information was found using semi-structured in-depth interviews. Such interviews offer multiple advantages. The main advantage is that it allows for finding the reasoning behind statements, decisions and behaviour (Hennink et al., 2010). Moreover, it allows for the discovery of relevant information that was not anticipated before (Gill et al., 2008). The discovery of unanticipated information is particularly relevant when analysing RESs, as they are inherently new and relatively unexplored concepts. The semi-structured aspect of these interviews allowed for asking further questions when unexpected answers were provided, in order to find the root causes and rationales of particular interpretations of energy communities. Lastly, as the research involved finding out what causes a potential misalignment between interpretations of energy communities, this could be

considered in part a process tracing approach, for which a semi-structured approach was particularly useful (Tansey, 2007).

To gather useful information to apply the framework, it was important that relevant individuals were interviewed. To grasp a full picture of how energy communities are interpreted on the regional scale, a diverse set of individuals was selected. For the policymaking perspective, the head of the steering committee responsible for forming the RES was selected. Furthermore, there is an organization in Groningen that aims to facilitate energy communities in the region. This organization, the *Groninger Energiekoepel* (Groninger Energy Association, GrEK) can be considered a central player in the regional energy community network. This is also true for *Bronnen VanOns* (Our Sources), a similar organization to the GrEK only operating on a larger scale, yet equally relevant in the regional network. Both organizations were selected for the interviews. Lastly, the perspective of an energy community is relevant to not only interpret top-down policy and thinking, but also bottom-up experiences to see if the rationales behind policy are equally interpreted on the ground. Individuals from these four organizations can provide four different perspectives that were deemed relevant to find the information that was needed. However, due to the Covid-19 situation and the fact that holidays interfered with the interview phase of the thesis, not all four perspectives were available for interviews. Ultimately, two individuals were available for an interview, both from the *Groninger Energiekoepel*[1].

As the aim was to apply the analytical framework, the six interpretations were leading in the interview. Multiple questions were asked for each interpretation. These questions were predominantly indirect as to not steer the interview. Moreover, several questions were posed to find out to what extent the interviewee is aware of regulatory changes on the higher policy-making levels and to what extent it affects their work. The full base interview can be found in Appendix A.

4. Results

4.1. Energy Communities in the European Union

Spurred by the events of World War II the first steps for energy policy in the European Union were primarily to promote peaceful, free and fair competition in energy markets (Herranz-Surallés, 2015; Knodt, 2018; Langsdorf, 2011). This market-based approach differs in its essence from what could be called the creation of a common energy policy, whereby policy-making power would be transferred upwards to EU institutions (Matláry, 1997). Due to national differences in energy situation and the 'high politics' nature of energy policy, energy competences remained firmly in the hands of national governments for decades (Matláry, 1997; Padgett, 1992). In 2009, the Third Energy Package was adopted, which is argued to constitute the realisation of the European energy market (Glachant & Ruester, 2014). This realisation is

[1] I have decided to not include the names of interviewees due to privacy considerations. However, the names are known to the supervisor of this thesis.

seen as a prerequisite for expanding the focus to other dimensions of energy policy (Primova, 2015). The Juncker Commission did so by introducing the Energy Union, highlighting the shift from an internal market perspective to a common energy policy with energy security, efficiency, climate action and research being additional dimensions (European Commission, 2017). Where energy market integration was once the core element of European energy ambitions, the Energy Union initiative exemplifies a greater focus on the transition to a more sustainable energy supply in the EU, for which an internal energy market is but a tool.

To realize the European Energy Union, the Clean Energy for all Europeans Package (CEP) was introduced in 2016. The CEP came into force in June 2019 as the successor of the Third Energy Package and consists of eight legislative acts covering a wide range of energy-related topics. Legislation put forward under the CEP covers energy performance in buildings, renewable energy generation, energy efficiency, governance regulation and electricity market design. Table 3 shows an overview of the legislative acts under the CEP and a summary of their contents. Part of this package is also an update of 2030 EU energy-related targets, with the new targets being a 40% cut in greenhouse gas emissions compared to 1990 levels, a 32% share of renewable energy sources in the EU's energy mix and a 32.5% energy efficiency target, relative to a baseline scenario established in 2007. The combination of newly introduced or updated legislative acts and the higher ambitions of the energy targets for 2030 should guide the European Union away from the use of fossil fuels and towards an economy that is carbon-neutral.

Legislative act	Number	Contents
Energy Performance of Buildings Directive	(EU) 2018/844	Sets provisions to increase the energy-efficiency of buildings.
Renewable Energy Directive	(EU) 2018/2001	Sets a binding target of 32% for renewable energy sources by 2030. Moreover, it provides incentives for mainstreaming renewable energy sources in transport and heating/cooling sectors. Lastly, the concept of Renewable Energy Communities is legally recognized.
Energy Efficiency Directive	(EU) 2018/2002	Sets the target of 32.5% for energy efficiency in 2030. Furthermore, obligations towards energy savings and remote reading of heat meters are extended.
Governance of the Energy Union Regulation	(EU) 2018/1999	Outlines the governance system for the Energy Union, in which each Member State has to create a 10-year National Energy and Climate Plan (NECP) for 2021-2030 and beyond that to 2050.
Electricity Regulation	(EU) 2019/943	Sets principles for the internal electricity market, focusing on wholesale markets and network operation. Introduces a new bidding zone review process and regional coordination centres.

Electricity Market Directive	(EU) 2019/944	Sets rules for generation, transmission, distribution, supply and storage of electricity, and puts emphasis on consumer protection and empowerment. Introduces the concept of Citizen Energy Communities.
Risk Preparedness Regulation	(EU) 2019/941	Contains provisions for Member States to prepare plans for dealing with potential future electricity crises. Possible electricity crisis scenarios are to be identified and should form the basis for risk preparedness.
ACER Regulation	(EU) 2019/942	Updates the role and functioning of ACER and increases its competence in cross-border issues.

Table 3 Overview of legislative acts under the Clean Energy Package (Florence School of Regulation, 2020).

Citizen Energy Communities

As shown in Table 3, the Electricity Market Directive (EMD) introduces the concept of Citizen Energy Communities (CEC). The introduction of this legal concept can be considered an unprecedented recognition of the importance that the EU attributes to citizen and community initiatives in the transition towards the future energy system (d'Herbemont & Roberts, 2020). In EMD, Article 2 outlines the definition of a legal entity to which an initiative has to comply in order to be considered as a CEC.

Firstly, a CEC is "based on voluntary and open participation" (Directive (EU) 2019/244, 2019, Article 2(11)a). This means that every citizen and, more broadly, every entity should be allowed to participate. Participation is thus not limited to natural persons, but also includes local authorities, and micro, small, medium-sized and large enterprises. Not only should CECs be open to these types of actors, their participation should be voluntary as well. The latter not only means voluntarily joining a community, but it also means that members are entitled to leave a community, upon which the normal provisions for switching energy supplier should apply.

Secondly, a CEC is "effectively controlled by members or shareholders that are natural persons, local authorities, including municipalities, or small enterprises" (Directive (EU) 2019/244, 2019, Article 2(11)a). In other words, effective control cannot rest in the hands of those members that are engaged in large-scale commercial activities or in the hands of participants for whom activities in the energy sector constitute their primary economic purpose. This excludes medium-sized and large enterprises from having control. Effective control is defined through decisive influence, particularly characterised by ownership or right to use of related assets or through rights or contract that confer such decisive influence to such members.

Thirdly, the purpose of CECs is different from that of traditional energy market actors, an aspect which can be considered a core feature of community initiatives. Whereas traditional energy market actors have financial profit as a primary purpose, this is not the case for CECs (Roberts

et al., 2019). Instead, CECs have a non-commercial approach to the provision of energy services at their core, as their primary purpose is "to provide environmental, economic or social community benefits" (Directive (EU) 2019/244, 2019, Article 2(11)b). These benefits might be towards its members and shareholders or to the region where it operates.

Fourthly, CECs may engage in a range of activities relating to energy and there are no strict limits as to what an energy community may undertake. The definition of CECs in the EMD is focused on the structural features of a community, not necessarily on the activities it engages in, and the definition merely provides an initial overview of possible activities. This initial overview is provided to depict and acknowledge the activities that community expected to mostly engage in and to guarantee that communities are not hindered from engaging in at least these activities. The activities that the Directive includes are the generation, distribution, supply, consumption, aggregation and storing of energy, energy efficiency services or charging services for electric vehicles. Additionally, the provision ends with "or provide other energy services to its members or shareholders", thereby allowing a potentially unlimited range of activities (Directive (EU) 2019/244, 2019, Article 2(11)c). The only condition applicable to this range of activities is the condition that activities have to relate to the electricity market, as the definition is rooted in a Directive aimed at the electricity market. Apart from this condition, the definition is technology-neutral in the sense that it does not prescribe a particular form of energy to be used for generating electricity (Caramizaru & Uihlein, 2020). Activities can be both renewable energy based or fossil-fuel based. Furthermore, the Directive allows communities to "own, establish, purchase or lease distribution networks and to autonomously manage them" (Directive (EU) 2019/244, 2019, Article 16(2)b). Lastly, the Directive establishes the conditions which Member States should ensure when communities are granted the right to manage the network, such as making agreements with system operators to which their network is connected.

The definition of CECs leaves out certain aspects as well. First of all, although locality is referred to throughout the definition of CECs, a clear geographical scope is lacking. This means that the EMD does not bind CECs to the vicinity of the activities it undertakes, meaning that participants can be situated far from the location where the energy activities are situated while still being a part of that particular energy community. Moreover, the definition potentially allows for cross-border communities where multiple activities or members in the community are divided over multiple Member States (Nouicer et al., 2020). Furthermore, it must be noted that the definition in the EMD does not prescribe any legal form or entity. Therefore, a CEC can take the form of a range of organization types, such as a cooperative, an association, a partnership agreement or even a small or medium-sized enterprise. However, the form it takes must provide the community with a legal basis through which they are entitled to exercise their rights or can take on obligations and responsibilities in their own name.

4.2. European Interpretation of Energy Communities

I will now analyse the CEC definition posed in the EMD through the lens of the theoretical framework. For this, not only the EMD is used, but also secondary literature by relevant stakeholders for interpretations of the CEC definition, in particular reports by the COMPILE Consortium for research into integrating community energy and the EU's Joint Research Centre (JRC).

Energy Community as actor

When a community is seen as an actor, it is seen as a distinct entity capable of taking action. The CEP, and in particular the EMD, interprets an energy community as an actor by giving it agency. This is especially apparent in the way the EMD depicts energy communities as energy market actors, clearly visible in Recital 46 of the EMD: "They [citizen energy communities, red.] should be allowed to operate on the market on a level playing field". The same interpretation can be found in Article 2, 6 and 16 where it is depicted what the rights and duties are for energy communities when they participate in energy markets, clearly aligning them with other market actors. This can, for example, be seen in Article 6(3) about the obligations for distribution network operators: "This Article shall also apply to citizen energy communities that manage distribution networks". The EMD giving agency to communities can also be identified in the wording of the recitals in the EMD, for example in Recital 43: "By directly engaging with consumers, community energy initiatives demonstrate their potential to facilitate the uptake of new technologies and consumption patterns". The wording in this Recital distinguishes energy communities from the consumers of which they often consist, further establishing CECs as a distinct actor. The interpretation of CECs as market actor is also identified in other documents clarifying the EMD. Reports by the COMPILE Consortium and the JRC state "Major purpose of enabling frameworks: create a level playing field for the CECs as a new market actor" (p.6) and "the enabling framework is more intended to create a level playing field for citizen energy communities as new market actors" (Caramizaru & Uihlein, 2020; Frieden et al., 2019, p.8).

Energy Community as scale

Where communities in the EMD are strongly interpreted from an actor perspective, this is less the case for the scale perspective. This interpretation, which pays attention to the hierarchy of scales, is not so easily identified in the Directive. As mentioned, Recital 43, distinguishes communities from the level of consumers, and Article 16(1)c recognizes communities as a scale different from households. Moreover, Article 2(11)a mentions excluding large and medium enterprises from effective control and including local governments in it, thereby distinguishing energy communities from the scale of local government. However, this is limited to providing merely a sense of scale, rather than providing a clear demarcation for the scale a community is supposed to have. Therefore, we can say that the EMD does not interpret energy communities as a scale.

Energy Community as place

Communities are often tied to a particular territorial dimension and are often embedded in a locality. This can be identified in the Directive as well. Recital 44 refers to a "cooperation of local actors", and Article 2(11)a and 2(11)b refer to effective control by "local authorities" and benefits "to the local areas where it operates". A COMPILE Consortium report corroborates these interpretations of communities as a scale by stating that "the purpose is framed around the provision of services/benefits for members or the local community" (Frieden et al., 2020, p. 6). However, in the same report it is emphasized that CECs are not limited in geographical scope. A similar notion is found in the JRC report which underlines that the Directive does not bind CECs to "the immediate vicinity or to the same geographical location". We can therefore conclude that there are weak references to communities as a place, yet the CEC definition does not go as far as truly interpreting energy communities as a place.

Energy Community as network

When interpreting communities as a network, we look more at how communities can extend beyond particular places and who can join. Recital 43 states that households should be able to "participate voluntarily", with no reference as to where these households can or should be situated in relation to the geographical place of the energy activity or the community. This is further materialized in Article 2(11)a and Article 16(1)a where it is defined that communities are based on "voluntary and open participation", not tied to any place. This leaves room for participants to form a network-style community. Furthermore, Recital 46 describes how electricity can be shared in a community "without being in direct physical proximity", explicitly extending the definition of community beyond a place-based concept. Moreover, not only is the definition extended beyond particular places, it is extended beyond being tied to a country. In Article 16(2)a, Member States are allowed to have their enabling framework "open to cross-border participation". This again leaves room form a more network-shaped community, and further limits the ties to a locality. We can thus say that energy communities are interpreted as a network in the EMD.

Energy Community as process

In interpreting energy communities as a process, the aspect of participation takes a central role, in particular the participation of ordinary people in the process of developing energy activities. Moreover, it is important that this participation is voluntary and consensual. This can be identified in the same articles that were discussed earlier. Article 2(11)a and Article 16(1)a underline the importance of "voluntary and open participation". Moreover, Article 16(1)b ensures that participants are entitled to leave the community as well, further highlighting that participation is consensual.

Furthermore, part of the EMD definition of energy communities is the aspect of "effective control". Article 2(11)a states that communities should be effectively controlled by "members or shareholders that are natural persons, local authorities, including municipalities, or small

enterprises". This excludes medium-sized and large enterprises from having decisive influence over the community and its undertakings (Frieden et al., 2019). The exclusion of often powerful medium-sized and large businesses provides ordinary citizens with a more powerful position. Moreover, the small enterprises that are allowed to have effectively control cannot have activities in the energy sector as their primary economic activity. This leaves further room for ordinary participants to have a say in the community. Given the attention for citizens and the importance of voluntary participation, we can conclude that energy communities are interpreted as a process in the Directive.

Energy Community as identity

Communities often involve a certain way of thinking, emphasizing collective interests rather than individual or purely economic motives. Notions of collectivism and social or sustainable idealism would be indicators for a identity approach. In Recital 5 we can see that reducing energy consumption is explicitly stated as one of the reasons behind energy communities. This points towards an important role for sustainable ideals in the definition of energy communities. This is further materialized in Article 2(11)b, where it is stated that the primary purposes for communities are "to provide environmental, economic or social community benefits". This indicates a certain 'civic-mindedness', which adds to the interpretation of energy communities as an identity (Roberts et al., 2019). However, CECs are not limited to renewable energy forms. Since CECs are not limited to renewables, this undermines the aspect of idealism and the central role for sustainable motives. Moreover, as idealistic motives form only part of the interpretation of energy communities as an identity, we cannot say this interpretation can be truly identified in the EMD.

	Interpretation identified?	Description
Energy Community as actor	Yes	Energy communities are clearly interpreted as a market actor. The Directive describes what energy communities may or may not do, thereby giving them agency.
Energy Community as scale	No	Although a sense of scale is provided, it is not explicitly defined on what scale energy communities can or should operate.
Energy Community as place	No	There are references to locality throughout the Directive, but ultimately energy communities are not seen as tied to a particular place.
Energy Community as network	Yes	Participating in energy communities should be open and voluntary. Moreover, energy communities are interpreted beyond a particular place and could even be cross-border, clearly leaving room for network-style communities.

Energy Community as process	Yes	The Directive underlines the voluntary participation of citizens and highlights the central role for ordinary citizens in the effective control over communities.
Energy Community as identity	No	The definition states environmental or social benefits as one of the purposes of energy communities. However, this is not further materialized, as energy activities are not limited to renewable energy.

Table 4 Overview of interpretations identified on the European policy level

4.4. Energy Communities in The Netherlands

In The Netherlands, there are two policies relevant for energy communities: the Dutch Climate Agreement signed in 2019 and the Energy Law that is nearly finished. These will now be briefly described, after which these policies will be interpreted using the analytical framework.

Dutch Climate Agreement

When the Paris Agreement was signed, as a next step in the attempt to limit global warming to a maximum of 2°C, nations were expected to set their national targets and trajectories to reach them in their Nationally Determined Contributions (NDC). How these NDC's came to be was up to the country, except in the case of countries that are part of the European Union (EU), as the EU negotiated on behalf of her members and thus also formed an NDC on behalf of the whole union. The union-wide goal is a 55% reduction of greenhouse gas emissions in 2030 compared to 1990 levels, thereby increasing the ambition from the previous 40% target (European Commission, 2020). In order to govern the EU's target within the union, there is an overarching framework, under which EU Member States have to draft and submit National Energy and Climate Plans (NECP). For The Netherlands, this NECP contains a 49% reduction in 2030. Although setting this national goal was a political decision made during the formation of the Rutte III government, the substance of the Dutch NECP is shaped by the Climate Agreement (*Klimaatakkoord*). As is not uncommon in the Dutch corporatist tradition, the Climate Agreement was created through a negotiation structure in which all relevant societal actors were represented, from local to national governments and from multinationals to local ngo's. The deliberations between these actors were organised into five sectoral roundtables, each with their respective working groups. The sectoral roundtables were centred around the Built Environment, Electricity, Agriculture and Land Use, Industry and Mobility. This resulted in a large number of sector-specific and cross-sectoral goals and measures which together are known as the Dutch Climate Agreement.

In order to reach the reduction goals envisioned in the Climate Agreement, it is important that renewable energy projects are realized. For renewable energy projects on land, this may sometimes be difficult due to local resistance. Therefore, in the Climate Agreement there is attention for involving the local community in realizing these energy projects. There are multiple ways of doing so. Firstly, citizens that live close to proposed projects can be consulted so that

their views and concerns are taken into account. Secondly, this could be done through passive financial participation, by initiating a *Gebiedsfonds* (Area Fund). This is a fund aimed to benefit social or sustainable projects in the surrounding area and is financed by commercial or community project developers, who generally put 50 eurocents per megawatt-hours of electricity generated in the fund (HIERopgewekt, 2020n; NWEA, 2020). Thirdly, the Climate Agreement recognises the value of "local initiatives" and also discusses the barriers that they may face (Klimaatakkoord, 2019, p. 219). Two main barriers are identified: a lack of knowledge among energy community initiators and a lack of financial means at the initial phases of the project. In the Climate Agreement is proposed to establish a centre of expertise and to set up a revolving fund to finance projects in the early stages of development.

The latter form of citizen involvement differs in its core from the first two forms of participation, as citizens participate in an active manner. Citizens initiate projects or buy into existing projects and thereby become part owner of the renewable energy project. Moreover, this means they face financial risks as well. For this form of participation, a target is formulated in the Climate Agreement. The target is that 50% of renewable energy production will be locally owned. It is envisioned that energy communities play a significant role in reaching this target.

Energy Law

Next to the Dutch Climate Agreement, the Dutch Energy Law is relevant for energy communities. The Energy Law constitutes an update of the previous Gas and Electricity Law from 1998. This former law was primarily aimed at opening up the energy markets to competition with a focus on consistent energy supply and keeping down prices (Elektriciteitswet, 1998). Being outdated, this law was not sufficiently equipped to deal with a growing role for renewable energy, more cross-border exchange and a rise in decentralized energy forms (HIERopgewekt, 2020a). With the introduction of the new Energy Law, the aim is to support the energy transition in The Netherlands and to contribute to an energy supply that is clean, safe, reliable, affordable and spatially feasible. It does so by introducing a new regulatory framework regarding the production, distribution and supply of electricity and gas.

The Energy Law is also a way to transpose several European directives and regulations to Dutch legislation, in particular the Electricity Market Directive 2019/944. To transpose this Directive, several elements have been incorporated into the Energy Law, such as the introduction of data and privacy in energy markets and increased market transparency through certification for comparison tools. However, the most important element for this thesis is the transposition of the Citizen Energy Community (CEC). This is done in the definitions in Article 1.1 and in a dedicated Article 2.1.5 (Energiewet, 2021). Article 1.1 states that an energy community is a legal person which aims to bring environmental, social or economic benefits to its members or shareholders or to the local areas in which it operates, rather than making financial profit. In Article 2.1.5. several conditions are listed to which a community must adhere to be considered an energy community. To a large extent the definition is coherent with the one provided by the

Electricity Market Directive. The article prescribes that participation in an energy community is open and voluntary and that members are free to leave the community. Moreover, it is stated that actual control over the community must be in the hands of members or shareholders that are natural persons, small businesses or local authorities. If the community is active in the production of renewable energy, then there are additional provisions in place. Such communities may decide that their members can only be natural persons, local authorities or small and medium-sized enterprises. Furthermore, energy communities may decide that actual control over the community may be limited to members or shareholders that are situated in close proximity.

4.5. Dutch Interpretation of Energy Communities

I will now analyse the interpretations of energy communities that can be identified in the Climate Agreement and the Energy Law through the lens of the theoretical framework. For this, not only these policies are used, but also secondary literature by relevant stakeholders for interpretations, in particular reports by Energie Samen, HIERopgewekt, and the Participatiecoalitie.

Energy Community as actor

Energy communities are explicitly seen as entities engaging in market activities. The Climate Agreement, when referring to the energy market as a whole, states that all market actors should be in charge of developing renewable energy projects, whereby energy communities are explicitly equalized to traditional market actors such as commercial energy companies (Klimaatakkoord, 2019). Moreover, an important role is assigned to energy communities in a district-oriented approach, similar to the role of other market actors. In other words, it is seen as a distinct entity operating on the energy market. This is similar in the proposed Energy Law, where its explanatory memorandum answers the question which actors are affected by this new law. In an enumeration of which actors may be affected, energy communities are posed as a type of actor, again on equal footing with other market actors.

Furthermore, looking at whether activities are ascribed to energy communities, we can see that the Climate Agreement acknowledges some difficulties regarding activities that communities can undertake. Nonetheless, the interpretation of energy communities engaging in market activities is clear. This can also be identified in the Energy Law, where energy communities are acknowledged as producers, consumers or distributors of energy. By attributing various possible activities to energy communities, they are given agency. Therefore, we can state that energy communities are interpreted as actors in the Dutch policy context.

Energy Community as scale

There are few references to be found for energy communities as a scale. The Energy Law, specifically Article 2.1.4., states that it is prohibited for energy companies to prevent individual customers from joining an energy community. From this we can deduct that the individual scale

is distinguished from the community scale and that individual customers are placed under energy communities in terms of scale. When looking at a report by Energie Samen, we can also identify the interpretation of communities as a scale to some extent. In the report it is stated that energy communities can relieve the amount of work for local authorities in the energy transition (Energie Samen, 2020). This places energy communities explicitly outside the governmental domain and as a separate scale of activities. However, solely based on these two indirect references to energy communities as a scale, we cannot say that energy communities are truly interpreted as a scale in the Dutch policy context.

Energy Community as place

In the Energy Law, we can see the interpretation as place play a significant role. In the definition as put forward in Article 1.1, generating benefits for the surrounding areas in which energy communities operate are one of the core goals of communities (Energiewet, 2021). References to locality can also be identified in the explanatory memorandum of the Energy Law. When stating the benefits of local partnerships, energy communities are mentioned as one of such local partnerships, thereby reaffirming the local aspect of communities. Moreover, Article 2.1.5. states energy communities may require their members to be situated in proximity to the energy project.

Moreover, the Climate Agreement provides a target of 50% locally-owned renewable energy production, showing the focus on locality when it comes to energy projects. Next to the goal of 50% locally-owned renewable energy, there are further references to locality in the Climate Agreement. For example, the Agreement states that there will be an arrangement for energy cooperatives to make participation easier for citizens living in direct proximity (Klimaatakkoord, 2019). By mentioning 'direct proximity', the interpretation of energy communities as a place is further materialized. However, in a report by HIERopgewekt it is questioned how local should be interpreted and what the demarcation of local is (HIERopgewekt, 2021b). This indicates that, although there are references to an interpretation of energy communities as a place, questions regarding practical implications remain. A report by Participatiecoalitie sheds more light on the practicalities of what local means. In this report it is underlined that ultimately local authorities decide on whether the local surrounding of the project has been sufficiently involved in the process, thereby democratically deciding on what is considered local (Participatiecoalitie, 2019). Therefore, even when local is not clearly defined in policies, the local aspect is democratically assessed in the process of project development.

When looking at a report by Energie Samen two references are identified to indicate what is considered local. Firstly, it is stated that the larger the share of ownership of citizens, the more benefits remain in their municipality, making the municipality an estimation of what should be seen as local. Secondly, when comparing conventional energy supply by commercial energy companies to energy communities, it is mentioned that a significant share of benefits leaves the municipality in the conventional situation, thereby again providing a indication of the

municipality as an interpretation of local (Energie Samen, 2020). Given all the references to communities as a local concept, as well as the questions and possible answers about what should be considered local, I argue that energy communities are interpreted as a place.

Energy Community as network

The interpretation of energy communities as a network is hardly identified in the Dutch context. Article 2.1.5. of the Energy Law states that participation should be open for anyone, similar to the definition found in the Electricity Market Directive. This initially does not tie members to the vicinity of the energy project and could potentially allow anyone to join, thereby allowing a network-style community. However, the Article also indicates that communities may limit control to members situated in the vicinity of the community and its projects. This condition limits the possibilities for a network-style community operating beyond place. Therefore, we cannot truly identify the interpretation of energy communities as a network in the Dutch policy context.

Energy Community as process

There is an abundance of references to the interpretation of energy communities as a process. In the Climate Agreement there is a proposition to make a special arrangement for energy cooperatives that would make it easier for ordinary citizens to participate in energy projects (Klimaatakkoord, 2019). The Energy Law, in turn, underlines the non-coercive aspect of possible participation by citizens in Article 2.1.5.b. Moreover, it is stated that the actual control over the community should be limited to natural persons, small businesses or local authorities. Not allowing medium-sized or large businesses to exert control leaves more room for influence by ordinary citizens. The Energy Law also prescribes the possibility for renewable energy communities to completely prevent large businesses from joining their community, further creating room for ordinary citizens to have a larger say in energy communities. This can be identified more explicitly in a report by HIERopgewekt, which states that it is important that conditions regarding participation and local ownership are embedded in legislation as this strengthens the position of ordinary citizens vis-à-vis commercial actors. This shows the importance of involving ordinary citizens and thus the interpretation of energy communities as a process. Furthermore, the involvement of social capital and interpersonal trust is relevant for the interpretation of energy communities as a process. This can be identified in a report by the Participatiecoalitie, in which energy communities owning energy projects is seen as a way to create conditions for "equal, open and transparent cooperation" (Participatiecoalitie, 2019, p. 1). In the same report we can also see that one of the benefits of having local actors such as energy communities participate is that they know the surrounding areas and the people in it, showing the importance of social capital. In conclusion, we can establish that energy communities are interpreted as a process in The Netherlands.

Energy Community as identity

In the definition of an energy community put forward in the Energy Law, we can see that the main goals for energy communities should be the provision of ecological, social and economic benefits (Energiewet, 2021). The former two indicate a sense of idealism and shows that the interpretation of energy communities is civic-minded. In the explanatory memorandum of the Energy Law, we can identify several references to energy communities as an identity. First of all, it is stated that communal forms of energy activities can provide an accessible way for citizens to participate in the energy market. This indicates a certain level of civic-mindedness related to energy communities. Secondly, the explanatory memorandum states that local cooperative forms such as energy communities can lead to more participation by ordinary citizens in the energy transition. Again, this indicates a certain level of civic-mindedness, as well as referring to sustainable ideals by linking energy communities to the transition to a more sustainable energy system. Looking at a report by Energie Samen, we can see that energy communities could lead to more local acceptance and, in turn, to more trust and harmony in the local community (Energie Samen, 2020). Moreover, it is highlighted by HIERopgewekt that for some citizens the rationale for joining an energy community is so they can be more in control of their own energy provision and to be independent (HIERopgewekt, 2021b). These examples show that energy communities are interpreted as a concept in which notions of idealism and civic-mindedness are common, thereby showing that energy communities are interpreted as a concept of identity.

	Interpretation identified?	Description
Energy Community as actor	Yes	The Climate Agreement and the Energy Law literally state that energy communities are market actors, which can also be identified in reports by stakeholders. Moreover, it is described what energy communities may or may not do, thereby giving them agency.
Energy Community as scale	No	It can be deducted that energy communities are separate from households and local government, but the implicit nature and low number of references would not justify recognizing this interpretation.
Energy Community as place	Yes	There are clear references to energy communities being inherently local. Moreover, there is an ongoing discussion about what local is, as well as some possible answers. This shows the central role for this interpretation.
Energy Community as network	No	It is initially described that anyone should be able to join energy communities, but this is limited immediately after. Moreover, energy communities are considered place-based, thereby limiting the network interpretation.

Energy Community as process	Yes	Energy communities are clearly interpreted as a process. Participation is explicitly non-coercive and there is a strong focus on the involvement of ordinary citizens. The importance of their voice is highlighted in various ways.
Energy Community as identity	Yes	There is a central role for civic-mindedness and idealism in the policies. Accessibility to the energy market and energy transition, trust and harmony in communities, sustainable ideals and gaining independence are core elements of the Dutch interpretation.

Table 5 Overview of interpretations identified on the national policy level

4.6. Energy Communities in the region

As was established earlier, the regional level that is the most relevant for energy communities in The Netherlands is the Regional Energy Strategies (RES)-region. These regions were introduced in the Climate Agreement and are meant to materialize many of the proposed measures in the Climate Agreement. Most importantly, it is up to these regions to propose a target for how much renewable energy they aim to produce. Moreover, the newly formed RES structure is also a deliberation platform for local stakeholders to discuss and decide where the production of renewable energy should be situated. The renewable energy bid, as well as the results from the deliberation process are published in a document, also referred to as the RES. The most recent version of the RES, the RES 1.0, was due July 1st 2021, as it was postponed due to circumstances relating to the Covid-19 pandemic. However, Groningen did not need this additional time to the fullest extent and was able to publish the RES 1.0 on April 8. The RES is created by a steering group of policymakers from local municipalities, thereby consulting local stakeholders including citizens, businesses and supporting organizations. The Groninger Energiekoepel (GrEK) can be seen as a supporting organization, as it is a central intermediary helping energy communities in the region with project development and community-building.

As this RES includes a proposition on where and how to produce renewable energy, this is also where visions and policies on energy communities are to be found. However, the RES was not published on its own. There are reports, studies and background documents published alongside the RES, providing further insights on certain decisions and concepts. For the RES region Groningen, the most relevant accompanying document is the *Methodeboek Lokaal Eigendom en Participatie* (Method Book Local Ownership and Participation). In this document local stakeholders describe what role they see for citizen participation in the energy transition and how it could be shaped and organised. Therefore, this document is also an important document for how local stakeholders look at energy communities, what role they see for communities and how they are to be supported. These two documents, along with the insights acquired through the interviews, will make up the source for the regional interpretation of energy communities.

4.7. Regional Interpretation of Energy Communities

As mentioned, the RES is the primary source of information for identifying interpretations of energy communities on the regional level. Additionally, the attached document *Methodeboek Lokaal Eigendom en Participatie* as well as the interview findings will be used.

Energy Community as actor

Energy communities are interpreted similar to other market actors in the RES. When describing issues with grid capacity, the RES highlights the difficulties energy communities may encounter, thereby aligning them with other market actors and giving them agency. Moreover, actions are listed that communities can or should take and roles they should or could fulfil. By doing so, energy communities are interpreted as a separate entity able to undertake activities. However, it is acknowledged in the RES that energy communities might need help from supporting organizations, such as the GrEK, in performing these activities. This need for help takes away some of the agency attributed to energy communities. On the other hand, the organization that is supposed to help energy communities (GrEK) is funded by energy communities, proving they are able to help themselves to a large extent. In short, their attributed agency is beyond reasonable doubt.

This is also identified in the interviews with local stakeholders. Communities are seen as entities making plans and engaging in activities such as energy production and knowledge sharing. Moreover, communities are explicitly mentioned as being in part a business that wants to be financially independent and simply do business (Interviewee 2, personal communication, July 20, 2021). One interviewee mentioned that they do not see all communities as true market actors yet, although they will need to be in the foreseeable future (Interviewee 1, personal communication, July 15, 2021). Interviewees also indicated that, technically, energy communities are independent entities able to perform activities. Ultimately, we can say that the interpretation of energy communities as an actor can be identified throughout the documents and interviews.

Energy Community as scale

Where references to communities as an actor are prevalent, this is less the case for references to scale. There are references in the RES to energy communities as a scale separate from individual households. Furthermore, the RES states that municipalities are the first contact for communities, which separates municipalities and communities as different scales. Moreover, it is explicitly stated that government and local initiatives have different roles and responsibilities in the energy transition.

This is corroborated in the interviews, where it was explained that most energy communities have a village or neighbourhood as their area of operation, which is both well below the scale of municipalities. At the same time, communities are always seen by GrEK as a collection of households, thereby also placing them outside that scale. However, one interviewee mentioned

that the goal for energy communities as a sector is to become fully independent from governmental subsidies, meaning that some connection exists between the scale of the local government and the scale of the energy communities (Interviewee 2, personal communication, July 20, 2021). However, although some connection exists between the scales of government and community, overall we can state that communities are seen as a rather independent scale in the hierarchy, between local government and households.

Energy Community as place

Place plays an important role in the local interpretation of communities. From the RES follows that it is important that the local area and its citizens profit from renewable energy projects. Secondly, it is emphasized that all citizens living close by should be able to join communities. Thirdly, it is envisioned that not only local citizens, but also locally-rooted businesses should be allowed join. Fourthly, there are indications for what local would mean, somewhere between a neighbourhood and a municipality. The above indicates that locality is inherently tied to energy communities and that there is also an idea of what local should constitute, thereby making energy communities clearly interpreted as a place-based concept.

This was also brought forward during the interviews, with all interviewees confirming that they see communities as inherently tied to a particular place or geographical scope. Most often the neighbourhood or village is provided as an example of what local should mean. One interviewee sees communities as something so connected to villages that they see the area of operation of the energy community as equalized to the size of the village it is situated (Interviewee 1, personal communication, July 15, 2021). This shows that both in policy documents, as well as 'on the ground', energy communities are interpreted as a place.

Energy Community as network

Energy communities are not interpreted as a network in the RES 1.0 and the accompanying documents. Although one could argue that all communities are to some extent a network consisting of actors, the fact that communities are considered to be tied to a particular place leads to the conclusion that communities are not interpreted as a network in the way that Walker (2011) describes. However, we do find another interpretation of communities as a network. Not in the way that communities are a network in itself, but in that energy communities are a part of a network. In the RES 1.0 we can find multiple references of how energy communities should cooperate with each other and how that can or should be supported. A cooperative structure of multiple communities can be considered a network. This network transcends locality and municipal borders and forms a higher-tier community: a community of communities.

A similar interpretation of communities as a network can be identified in the interviews. The interpretation of communities as a network in the way that Walker describes is undermined by the ties to the local surrounding. However, on multiple occasions a reference is made to

communities working together, thereby forming a community of communities. This can be seen as a network of communities. Moreover, one of the goals for the near future is even to form more regional cooperations of energy communities and to establish more connections to pre-existing surrounding social networks (Interviewee 1, personal communication, July 15, 2021). In short, energy communities are not interpreted as a network in the way Walker described, but can be interpreted from a network perspective nonetheless.

Energy Community as process

The interpretation of energy communities as a process is found abundantly on the regional scale. This interpretation has a strong focus on the involvement of ordinary citizens, for which the regional scale is the closest. References to the importance of involving ordinary citizens are found throughout the policy documents. Furthermore, there is attention for the open and voluntary nature of participation in energy communities. Energy communities are considered a vehicle for pro-actively involving citizens in an open manner and providing them with a say in how energy production should take place in their surroundings.

The interviews confirm the central role that citizen involvement takes in the regional interpretation of energy communities. One interviewee mentions ordinary citizens in their first description of what an energy community is (Interviewee 1, personal communication, July 15, 2021). Another interview also named involving as many people as possible as one of the main aims of an energy community (Interviewee 2, personal communication, July 20, 2021). Moreover, both interviewees explicitly mentioned the importance of community organizers involving different types of people with different types of skills. This can be seen as attention for social capital, which is also one of the key components of the interpretation of energy communities as a process. Therefore, we can say that energy communities are interpreted as such on a regional level.

Energy Community as identity

On the regional scale, energy communities are interpreted as an identity in multiple ways. First, there are references to sustainable ideals, such as supporting the transition to renewable energy, improving the sustainability of houses and enhancing biodiversity. Secondly, there are references to socio-economic ideals to be found, such as attention for including people with less financial resources and supporting local amenities. These ideals show that communities are considered to have a certain civic-mindedness incorporated. In various documents having a societal cause is also explicitly mentioned as being at the core of communities.

The importance of ideals and collective interests is corroborated by the interviewees. They too see communities as a way to channel civic efforts and to promote sustainable and socio-economic ideals. One interviewee explicitly mentions societal tasks and goals as one of the core aims of energy communities and confirms that at least sustainable ideals are to be identified in every community. Interestingly, both interviewees points to the region's history with

earthquakes due to natural gas extraction as being one of the elements of communities as a form of identity in the region. In conclusion, energy communities are certainly interpreted as a form of identity on the regional scale.

	Interpretation identified?	Description
Energy Community as actor	Yes	Energy communities are seen as independent entities able to undertake activities. Moreover, to a large extent they are seen as similar to regular market actors, both in policy documents and in interviews.
Energy Community as scale	Yes	Energy communities are seen as a scale of activities below local governments and above households and independent from both. Although there is and remains some connection between local government and communities due to overlapping goals, communities' independence as a scale is undisputed.
Energy Community as place	Yes	Energy communities are inherently tied to locality on the regional level, as found in documents and unequivocally corroborated by interviewees. Moreover, there is an idea what local constitutes and what actors are considered local. Being tied to neighbourhoods or villages is the default setting for the vast majority of communities in the region.
Energy Community as network	Yes	Communities are not interpreted as networks when looking at the definition by Walker. However, there is a considerable amount of references to communities cooperating with other communities, thereby forming a network: a community of communities. Therefore, communities can be considered interpreted as a network: not in itself but as a part of one.
Energy Community as process	Yes	The interpretation as a process is abundantly described throughout the documents and often mentioned in interviews. Striving to involve as many ordinary citizens as possible is considered one of the main aims of energy communities. Moreover, there is clear attention for social capital as an important asset of communities.
Energy Community as identity	Yes	References to sustainable and socio-economic ideals are frequent in documents and interviews. Sustainable ideals in particular are seen as a core element of communities. This indicates a high level of civic-mindedness and a large role for collective interests. Another important element of identity in this particular region is the history with earthquakes due to natural gas extraction.

Table 6 Overview of interpretations identified on the regional policy level

4.8. Coherence across policy-making levels

Table 7 shows the findings regarding how holistic policy is on each level compiled into one table to show the coherence across levels.

	Interpretation identified on European level?	Interpretation identified on national level?	Interpretation identified on regional level?
Energy Community as actor	Yes	Yes	Yes
Energy Community as scale	No	No	Yes
Energy Community as place	No	Yes	Yes
Energy Community as network	Yes	No	Yes
Energy Community as process	Yes	Yes	Yes
Energy Community as identity	No	Yes	Yes

Table 7 Overview of interpretations identified across all policy-making levels

What we can see is that energy communities are not interpreted similarly at all policy-making levels, meaning that perfect coherence across all levels cannot be identified. What we can establish is that energy communities are interpreted as an actor and as a process across all levels. This means that energy communities are ascribed agency at all levels and that all levels deem the involvement of ordinary citizens as important. Furthermore, we can see that the interpretation of energy communities as a place-based concept and the interpretation as identity can be identified at both the national and the regional, but not at the European level. With this in mind we could hypothesize that the lower on the policy scale we get, the more interpretations can be identified. However, we cannot truly do so as the network interpretation is not identified at the national level.

5. Conclusions and Discussion

In this thesis I have looked at how energy communities are interpreted across multiple levels of policy-making, using a framework created based on insights by Walker (2011). Overall, the framework has proved to be a useful tool to assess the different policies in terms of how holistic they are. All the interpretations were identified at least once, meaning the framework was applicable in its entirety and provided interesting results. This section will first provide the conclusions for each policy-making level and for the coherence across levels. After that, these conclusions and implications will be discussed and linked to theory and expectations[2]. Next, the framework will be critically discussed. This section will be concluded with a discussion of the limitations and their implications.

Conclusions

When looking at the European level, we can see that only three interpretations can be identified: as actor, network and process. With only three out of six possible interpretations, we cannot say that the EU approach to energy communities can be considered holistic. European policy does not attach identity or place-based values to communities, nor does it consider communities to be a particular scale. It appears that, at the European level, it was attempted to provide a lean and neutral definition of energy communities with only the basic components: equal market access, citizen involvement and cross-border possibilities. It will be discussed later in this section whether or not having a lean definition should ultimately be seen as negative.

At the national level, we can see that energy communities are interpreted in four ways: as actor, place, process and identity. With one more interpretation identified, we can say that the national level provides a more holistic approach to energy communities. Interestingly, the national level does not add one interpretation to the three identified at the European level, rather it swaps as network and place. This means that it is not the case that a lean definition at the highest policy-making level is expanded as it moves down. Instead, during the transposition and the interpretation of the EU definition, the concept is redefined. On the one hand, this can be attributed simply to the freedom that Member States have to interpret this Directive for the Dutch context, which can be considered a core principle of EU directives and can be seen as valuable. On the other hand, this can be partially attributed to the nature of the framework, where the interpretations place and network can be each other's opposite.

Although regional policy is embedded in national policy, we can identify different interpretations at the regional level, as all six interpretations are found on the regional level. It is conceivable that all interpretations were found on this level as this is the level on which interviews were held and thus questions were asked to try and identify different interpretations. This could have

[2] These implications will not be interpreted into policy lessons. This study has a meta-approach and deals with how energy community policies are approached, rather than looking at the actual substances of these policies. Proposing concrete policy lessons would go beyond the level of substantive details of the thesis.

biased the findings, were it not for the fact that all interpretations were already identified in the policies and related documents. Therefore, we can say that there is no bias caused by interviews and policy support is truly holistic at a regional level.

Looking at the coherence of interpretations across the three levels, we can say there is hardly any. Only two interpretations are found across all three levels, four interpretations stretch across two levels and one interpretation is only found at the regional level. One could argue in favour of some level of coherence existing if the interpretations provided on the highest policy level would see additional interpretations being added as it moves downwards in policy scale. This would mean that at a strategic level, an abstract definition would be provided which would see additional interpretations to adapt to the local context. However, this is not the case, as the interpretation as network is found at the European level, but cannot be identified at the national level. Therefore, we can say that policy on energy communities is not coherent across policy-making levels. Later in this section, I will turn to the question to what extent this limits suitability of the policies.

Implications

I have discussed what the findings of study are and I now turn to what these findings mean. In the theoretical background it was described that energy communities can have many benefits, but that policy should be holistic and coherent in order to truly support energy communities and make sure all these benefits come to fruition. The findings indicate that policy does not follow a holistic approach at both the European and the national level. A holistic approach can be found at the regional scale, although the policy-making power is less at this level as regional authorities have to act in accordance with European and national policy. The approach is thus found to be most holistic where policymakers arguably have the least freedom as to how to define energy community support. Furthermore, we cannot identify true coherence across multiple levels of energy community policy support. The only two interpretations that can be considered coherent across levels are as actor and as process. Considering just one policy level can be considered holistic and coherence cannot be identified, we can draw the conclusion that policy support for energy communities is not truly suitable in its current state and can be improved. This is especially the case considering the role and importance that is attributed to communities and to local ownership. Improving scope and coherence can still be done for the national level, as the Energy Law is not yet finalized.

However, a moderate scope of interpretations for the European level may have its benefits as well. By providing a lean and neutral definition of energy communities with only the basic components, significant room is left for Member States to adapt their interpretation to the varying cultural, legal, administrative and political circumstances. In this respect, the European level would only provide a steering policy on a strategic level, without filling in unnecessary details. This would be in line with findings by Markantoni (2016), who stated that in a multilevel governance situation in the field of community energy, the highest governance level should take

a leading role and provide steering policy. For energy community policy at the European policy-making level, a steering role would mean limiting the interpretations of energy communities to a minimum. Moreover, providing a lean definition could prevent another potential problem. Kokx and Van Kempen (2010) find that when interventions by centralized governments are too detailed, the intergovernmental relationship between centralized and decentralized governments can be put under pressure. An intervention that is too detailed generates "local-level frustration and tension" (p. 366). In the context of European policy-making for energy communities, this would mean providing a definition that allows communities to participate on the energy market on an equal footing, but not attaching any cultural or ideological values to them. Rather, further interpretations should be left to lower levels of policy-making.

These insights are corroborated by findings from the interviews. As mentioned in the methods section, not only questions were asked to fill in the framework, but questions were also asked to find out to what extent the interviewee is aware of regulatory changes on the higher policy-making levels and to what extent it affects their work. Upon answering these questions, one interviewee mentioned that the lean definition on the European level already proved helpful, as well as the aim in the Dutch Climate Agreement to have 50% of renewable energy production locally-owned. It was mentioned that the definition and aim provided energy communities with recognition and thereby provides easier access to policy deliberations and a stronger bargaining position during these deliberations. The interviewee also mentioned that, to some extent, the European policy was more helpful. This was due to the fact that activities such as collective self-consumption were facilitated better and more explicitly than in the national legislation (Interviewee 2, personal communication, July 20, 2021). A broader scope of activities attributed to energy communities would all be classified under the interpretation of energy communities as an actor. Two policies that would look similar in the framework could thus perform differently in terms of supporting communities.

Framework

When applying these insights to the framework, I can derive some implications for the framework. First of all, the interviewee experienced the European interpretation as broader and more helpful, but this was not captured by the framework in its current form. This is due to the fact that the broadness that was experienced would all fall within one interpretations and would thus not be captured by the framework. This means that the current framework lacks a level of detail to capture experienced differences in performance in otherwise similar policies. Adding an extra level of detail could further distinguish which policy is better suited to support communities. Secondly, it can be questioned whether the framework is truly applicable to a multilevel context. Using the framework I was able to capture the extent to which policy support is holistic on each individual policy-making level and to what extent the policy-making levels are coherent in their views. However, it may not be well-suited to capture policy suitability in a multilevel setting. Following the findings brought forward by the framework, EU energy community policies were not holistic and overall vertical coherence was missing. These findings

would imply that policy support for energy communities is suboptimal. Following the assumptions made and the framework applied, the European definition should be expanded to increase holisticness and coherence across levels. However, interviewees explicitly mentioned that the EU policy support in its current form is very helpful. This would argue against the need for expanding the definition on the European level. This also applies for the national level, where the Dutch policies are missing several interpretations to be truly holistic, yet national policies are considered useful and helpful by the interviewees. If interviewees, people working with these policies “on the ground”, consider these policies to be helpful, then I would argue that those policies can be considered suitable to a large extent. This invokes the idea that perhaps not all interpretations are required on all levels of policy-making in order for the multilevel policy support to be effective. It could be that certain interpretations are important on the lowest policy-making level, but only limit possibilities for lower scales of government when applied on the highest policy-making level. This would be in line with Kokx and Van Kempen (2010), as described earlier. If this is the case, then the framework would still be useful for analysing energy community policies, only without the assumption ‘more is better’. In other words, the framework could still be applied, but with the assumption that not all policy-making levels require all interpretations of energy communities to be effective. Additional research could be done to pinpoint which interpretations are required on which policy-making level, in order to come to a framework which is truly applicable in a multilevel setting.

Next to some interpretations being identified and some not, there appear to be some interactions between the interpretations. Firstly, to recognize the interpretation of scale, it appears that some indicators for place are necessary. When explaining that energy communities are considered as place-bound, one interviewee described what the area of operation is for communities and that each village generally has its own community. It was then added that multiple villages together make up a municipality, which is the lowest level of formal government. By explaining this. It was made clear that energy communities are situated on a smaller scale than local government, which is an indicator for the interpretation of scale. Secondly, it appears that the more a community is seen as something inherently place-bound, the less it is seen as a network. This is due to the fact that the description of 'as network' by Walker explicitly states that it should be seen as something beyond place. The interpretation as network is comprised of more aspects, but these are either attributed to the process-interpretation or are simply not the case in the policies under study. This meant that, in effect, the more communities were interpreted as a place, the less they were as a network in the way Walker described. However, there was another approach to a network-interpretation found in which communities were not necessarily seen as a network in itself, but as part of a network of cooperating communities: a community of communities. This aspect should be included in the framework when used in the future, at least for the Dutch context where communities are hardly ever beyond place. Thirdly, however, when interpreting communities as a network based on the fact that they form a network of communities by cooperating with each other, this nears the interpretation as actor. This is due to the fact that by seeing communities as being able to

cooperate and form networks, one attributes to them a certain level of agency. This is not inherently worrisome, rather it is something to pay attention to when expanding the interpretation as network. Fourthly, there is an interaction between the local aspect of the 'as place'-interpretation and socio-economic ideals put forward under the interpretation as identity. When energy communities are seen as entities providing local social services or financing local amenities, this is proof of a certain identity and civic-mindedness. However, when a community is focused on and tied to the geographical area it is situated in, this also qualifies as an indicator for interpretation as place. In other words, it is found that the two reinforce each other. This idea is strengthened by the fact that the interpretations are only identified in parallel. This has the practical implication that if policymakers want to promote energy communities as a concept to which some form of identity is attached, those policymakers also have to take into account interpretations of energy communities as a place-bound concept. The two are connected, at least on the regional level of policy-making, and should be approached as such.

Limitations

Finally, although this study largely produced the findings it was designed to produce, there are some limitations that need elaboration. Firstly, the framework does not take into account contextual factors below and above the level of the energy community. Policies could take into account and support social capital in communities, but if this social capital simply is not available in the community, the policies would have no additional value. In other words, no matter the policy arrangements, internal characteristics remain essential (Oteman et al., 2014). The same goes for the context in which the community operates, which is not part of the framework in its current form. For the case of Groningen, this stood out as the local relevance of the region's history and problems with earth quakes due to natural gas extraction was difficult to take up in the framework. Creamer et al. (2019) put it well by stating "the meaning of community [..] is revealed in community's embedded extensions in various situations, contexts and objects" (p.2).

Secondly, some remarks have to be made about the case selection. Groningen is but one region and not necessarily representative for all. Groningen is a very rural region and more urbanized regions could very well produce different results. This is also acknowledged by an interviewee when they mentioned that in the province of Zeeland a community exists that is far less place-based than communities in Groningen are. A more extensive study including more regions would provide further insight into this variation. Groningen is also not necessarily representative because of its extensive and dedicated document regarding citizen participation and energy communities, for which it was selected. Other regions that may have less elaborate thoughts and ideas on energy communities perhaps attribute a less important role to energy communities and might have a more narrow view on the concept. This would mean that less interpretations could be identified and those region would come out as less holistic. Therefore, although providing useful data for analyses, Groningen as a case study may limit the external validity.

Thirdly, a note must be made on the interviews. This study faced time restraints and limited availability of interviewees due to summer holidays. This meant that it was only possible to conduct two interviews with stakeholders from one organization. This organization, *Groninger Energiekoepel*, is a central organization and is in contact with energy communities in the region, as well as policy makers and other market actors. In an ideal situation, more interviewees from multiple organizations would have provided further insight into the regional interpretations of energy communities. However, as the interviewees take up such a central role in the regional energy community landscape and as the answers provided in the interviews are so in line, the two interviews were able to provide relevant insights to help draw conclusions in this thesis. However, future research should be based on a larger and more diverse set of interviewees to grasp the full spectrum of perspectives that are to be found on the regional scale.

To conclude, given the limitations, the created framework proved useful to analyse supporting policies for energy communities. The framework helped bring forward interesting results regarding supporting policy in a multilevel setting. However, one can question how suitable the framework based on Walker's insights is in a multilevel context. Perhaps not all interpretations have to be identified on all policy-making levels, which would mean the framework in its current forms would not be able to capture policy suitability. This is particularly relevant in the context of EU policy-making, as it is inherently multilevel and often starts with abstract policy idea at the EU level and becomes more elaborate when transposed into lower policies. All in all, the framework provides a solid foundation for thinking about energy community-supporting policies, but needs to be further developed for application in a multilevel setting.

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Appendix A

Interview

In mijn onderzoek bekijk ik hoe energiegemeenschappen geïnterpreteerd worden op verschillende beleidslagen. Hiervoor bekijk ik op Europees, nationaal en regionaal niveau hoe energiegemeenschappen in beleid worden gedefinieerd. Voor de Europese en nationale schaal heb ik daarvoor genoeg informatie vanuit de wetgeving en rapporten van relevante organisaties zoals HIEROpgewekt, Energie Samen of de Joint Research Centre van de Europese Commissie. Voor de regionale schaal zijn de documenten beperkt tot de RES en zijn er geen rapporten beschikbaar. Om die reden ben ik benieuwd naar uw inzichten op dit vlak.

Om de interpretaties van energiegemeenschap gestructureerd te onderzoeken, maak ik gebruik van een framework. Dat framework zal ik pas later in het gesprek iets verder toelichten, om zo ook te voorkomen dat uw antwoorden daardoor gestuurd of gekleurd kunnen worden. Maar het doel van dit gesprek is deels om dat framework in te vullen en dus om te zien hoe er op regionaal niveau naar energiegemeenschappen wordt gekeken. Daarnaast heb ik nog wat andere vragen over beleid omtrent energiegemeenschappen over meerdere niveaus.

Wat praktische dingen nog

- Ik doe een aantal interviews, dus om die vergelijkbaar te maken zal ik de vragen deels oplezen. Maar ook zal ik soms verder doorvragen of vragen naar het waarom van een antwoord.
- Een aantal vragen lijken wellicht wat simpel en zijn dat misschien ook. Maar het is voor mij en het onderzoek natuurlijk van belang dat ik geen aannames doe en dat de antwoorden ook echt door jou worden ingevuld. Vandaar dat ik wellicht ook vragen stel waar het antwoord voor de hand ligt.
- Ik wil nog even benadrukken dat het gaat om het regionale perspectief. Er zijn dus geen goede of foute antwoorden en geef het ook vooral aan als de vraag of antwoord simpelweg niet speelt in je werk. Als iets niet besproken of onbekend is in jullie omgeving, is dat voor mij evengoed een bevinding.
- Hopelijk verbaast deze vraag je niet, maar toch even checken. Vind je het goed dat ik het gesprek opneem en je antwoorden gebruik, uitsluitend voor mijn scriptie? Ik zal je antwoorden in het Engels moeten interpreteren en eventueel vertalen, en dat zal ik uiteraard zo waarheidsgetrouw als mogelijk doen en bij twijfel kom ik wellicht nog bij de terug.
- Tot slot, ben je geïnteresseerd in het ontvangen van de eindversie van mijn scriptie?

➢ Heb jij nog vragen vooraf? Zo nee, dan start ik nu de opname.

Vragen

1. Wat versta jij onder een energiegemeenschap? Kan je omschrijven wat dat inhoudt?

Actor

2. Kun je energiegemeenschappen in jouw ogen zien als energiemarkt-spelers? En waarom?

3. Zijn energiegemeenschappen gelijk aan andere marktdeelnemers of zijn ze anders? En waarom?

Scale

4. Hoe zie je energiegemeenschappen in termen van schaal?
5. Kun je energiegemeenschappen een plaats geven op een schaal van grootte?
6. Hebben energiegemeenschappen in jouw ogen ongeveer een vaste omvang of variëren die? Als ze variëren, kun je een range geven van de grootte?

Place

7. In hoeverre zie jij energiegemeenschappen als iets lokaals?
8. Zo ja, wanneer is iets 'lokaal', kun je dat toelichten?
9. Zit er een bepaalde geografische grens aan energiegemeenschappen of de deelname daaraan? (Hierbij moet je denken in termen van kilometers tussen een project door een gemeenschap en de afnemer binnen die gemeenschap bijvoorbeeld.)
10. Hoe kijk je naar potentiële deelnemers buiten een dergelijke grens? Moeten die kunnen deelnemen of moet dat voorbehouden zijn aan deelnemers in de nabijheid?

Network

11. In hoeverre spelen onderlinge relaties tussen deelnemers een rol?
12. En in hoeverre moeten er goede onderlinge relaties tussen álle deelnemers zijn? Of moet er misschien zoiets zijn als een kerngroep en kunnen overige deelnemers dan "aansluiten"?

Process

13. Wat zijn de mogelijkheden en kansen die energiegemeenschappen kunnen bieden bij het organiseren van 50% in lokaal eigendom, zoals in het Klimaatakkoord gegeven is?
14. In hoeverre bieden energiegemeenschappen kansen voor meer participatieve besluitvormingsprocessen?

Identity

15. In hoeverre heerst er een bepaalde manier van denken binnen een gemeenschap?
16. Spelen sociale of duurzame idealen een rol bij energiegemeenschappen en zo ja, hoe groot is die rol?
17. Kun je deelname aan een energiegemeenschap zien als een bepaalde kanalisering van maatschappelijke betrokkenheid?

Algemene vragen

Naast deze vragen rondom hoe jij als regionale betrokkene kijkt naar energiegemeenschappen, ben ik ook benieuwd hoe zulke interpretaties zich tot elkaar verhouden over de verschillende bestuurslagen heen. Hiervoor heb ik nog een aantal vragen.

1. In hoeverre merk je iets van het nationale beleid rondom energiegemeenschappen?
2. Ben je bekend met de ontwikkelingen in de Nederlandse energiewet, waar nu ook een relatief heldere definitie van energiegemeenschappen in staat?
3. Beïnvloed deze energiewet op enige manier je werk?
4. Zou je willen dat er op nationale niveau iets anders zou worden gedaan dan er nu gebeurt op dit vlak?

En dan heb ik vergelijkbare vragen over de Europese situatie:

5. In hoeverre merk je iets van Europees beleid rondom energiegemeenschappen?
6. Ben je bijvoorbeeld bekend met de Citizen Energy Community zoals gedefinieerd in de Electricity Market Directive?
7. Beïnvloed de introductie van deze definitie op enige manier je werk?
8. Zou je willen dat er op Europees vlak iets anders zou worden gedaan dan er nu gebeurt op dit vlak?

Appendix B

Codebook for interviews

Interpretation	Description	Signal words
Community as actor	'The community' here is given agency, the term being used to describe a distinct actor that can make a difference, take actions of various forms, and interact with others. Often either explicitly or by implication community is meant as a category of 'the public' in which networks and social relationships of various forms connect people together.	Agency Activities Market player
Community as scale	Here community is seen to sit within a hierarchy of interacting scales of action. Its position is above the individual and households, but typically below the level of local government. This entails the notion of a collective, but one which is not formally part of the structures of formal government, and can therefore act independently of it.	Above household Below local government Scale of activities
Community as place	In popular usage and culture, 'community' usually implies a set of social relationships embedded in a particular locality—the idea of territorial community or community of locality—and this is often carried across into environmental and carbon applications, for example, in the notion of a village or town becoming a low-carbon community.	Tied to place Maximum distance Outsiders cannot join
Community as network	Communities are seen as formed by networks and social relationships, but these can extend beyond specifically place-based networks. Examples would include a network of investors in a 'community' renewable energy project, or climate justice activists connected over virtual networks.	Social relationships Beyond place Outsiders from place can join

Community as process	Here community is seen as a distinctive way of acting, involving the participation of 'ordinary people' in collaborative processes, often also very 'hands-on', involving voluntary and consensual rather than coerced involvement. Within this process the quality of social relationships are seen to be important, with strong social capital and stocks of interpersonal trust being drawn on.	participation of ordinary citizens non-coercive involvement social capital interpersonal trust
Community as identity	This suggests more of a way of thinking and being that people might adopt, or be expected to adopt in their every-day encounters and ways of living. This can be captured through the notion of being 'civic-minded', emphasizing collective interests beyond household and family, but below the level of the formal state.	Certain way of thinking Civic-mindedness Idealism (social/green) Collective interests

Table 8 Codebook used for coding the interview transcripts