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PRACTICE BRIEF

The (Self-)Governance of Community Energy

Challenges & Prospects

Community energy is emerging as an intriguing new way of organizing the energy system. It fits very well to discourses on sustainability, but also to more neo-liberal ideas of self-reliance and independence. At the same time, its development challenges existing (energy) structures and raises questions about the (self-) governance of community energy. In this practice brief, we identify challenges and provide recommendations for initiators of community energy projects and for (local) governments, businesses and third sector organisations.

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NEXT GENERATION INFRASTRUCTURES

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Do you want to know more about community energy? Are you interested in research, advice, training or education on community energy, self-organisation or energy transitions more generally? Please contact Rick Bosman, bosman@drift.eur.nl or check our website: http://www.drift.eur.nl/.

Practice Brief Summary

The field of Community Energy

In this practice brief we address both the prospects and challenges of the (self-)governance of community energy initiatives from an interdisciplinary perspective. With 'community energy' we refer to energy projects "where communities (of place or interest) exhibit a high degree of ownership and control, as well as benefiting collectively from the outcomes" (Walker & Devine-Wright 2008). In **section 2** of this practice brief, we discuss the field of community energy, which includes a wide variety of initiatives with different motivations and diverse arrangements.

Challenges for the Self-Governance of Community Energy

We distinguish four categories of challenges that community energy initiatives are faced with: (1) economic & financial issues, (2) legal barriers, (3) socio-cultural conditions and (4) micro-political struggles and conflict. Underlying these challenges are three overarching themes that are essential for initiating and sustaining a community energy initiative: trust, motivation and continuity. In **section 3**, we discuss these challenges and overarching themes, and we discuss what these challenges mean for the (self-)governance of community energy. A main challenge of 'self-governance', is that it is often unclear who exactly the 'self' or the 'other' is, and that it is thus unclear which actors are responsible for which aspects. This is why in this practice brief, we have used a **multi-actor perspective** that helps to specify the different actor roles involved in the (self)-governance of community energy.

Multi-actor Recommendations

The multi-actor perspective distinguishes between four different sectors: (1) the state, (2) the market, (3) the community, and (4) the Third Sector. The latter is an intermediary sector in between the other three. In each of these sectors, there are a variety of relevant actor roles. When we talk about 'the state', for instance, it is not only about the role of 'the government', but also about the role of citizens and organisations as subjects to the law and as political supporters. As such, the state is shaped by a multiplicity of actors. The same can be said about the market, the community and the Third Sector. Taking such a multi-actor perspective to look at the phenomena of community energy means that we acknowledge the multiplicity of actor roles involved in the development and (self-) governance of community energy. Based on the multi-actor perspective, we identify practice recommendations directed at different actors for dealing with the identified challenges of community energy.

A **summary of the multi-actor recommendations** can be found in **table 1** on the next page. More information about the multi-actor perspective can be found in **section 4**, as well as a more in-depth discussion of each of the recommendations mentioned in the table.

SECTOR	actor-specific recommendations on how to deal with the challenges of community energy (CE)
STATE	**Government officials:** • simplify laws and/or provide better information & education on laws • shift attitude: approach CE as opportunity for new, improved regulations • distinguish between support needs of market, Third Sector or communities
	Citizens and organisations (i.e. legal entities / subjects to the law): • acknowledge need for bureaucracy and regulations (rather than only ridiculing it) • engage in a constructive dialogue on how to improve regulations • engage in political debate about energy, through lobbying, voting and public debate
	Advisors & commentators (from variety of knowledge institutes): • feed the political debate with socially relevant CE research • identify and analyse the potential side effects of the self-organisation of CE • outline the broader spectrum of macro-trends that take place in the energy sector
MARKET	**Business Entrepreneurs, Banks, Financial Investors:** • develop complementary services for CE initiatives • address CE as platform representing interests of energy consumers or 'prosumers'
	Consumers and 'prosumers': • articulate your collective demand for sustainable and local energy • support community energy initiatives • challenge incumbent energy companies (e.g. by switching energy provider)
	'Social entrepreneurs' in CE: • (re)position yourself in the energy market through new business models • provide clear propositions to (future) members, articulating economic self-interest • design 'market strategy' based on interdisciplinary market research
	'Public bidders'/ 'public clients' (i.e. government): • procure sustainable and participatory energy • revisit business models of public, collective energy arrangements
COMMUNITY	**Initiators & members of CE:** • be prepared for moments of volunteer fatigue and processes of formalisation • search for information and support from experienced individuals and organisations,
	Community support professionals (from government, business and NGOs): • develop *with* community and/or support what has been developed *by* community, rather than develop *for* community
THIRD SECTOR	**Non-profit professionals:** • provide platforms for initiators of community energy to unite • provide supporting structures to mediate legal, financial, socio-political challenges • act as intermediary broker between the state, the market and the community
	Researchers, teachers, artists, writers, volunteers, activists: • inform public opinion, by sharing information, narratives and images on CE development, including critical and constructive reflection • use interdisciplinary and transdisciplinary approaches to CE
	'Funders' (from government, business and NGOs): • ensure legal and financial support and opportunity for Third Sector organisations

Content

1 Introduction

While in the US a shale gas revolution appears to be underway, on this side of the Atlantic we see one after the other local sustainable energy initiative popping up, be it collective purchasing of solar panels or cooperatively developed wind projects. These community energy initiatives form part of what has been coined the 'Energetic Society'[1] or 'Participation Society'[2], a development in which citizens increasingly self-organise systems of provision, such as energy, food and health care, which were previously the domain of market or government structures. This development challenges governments and traditional businesses. In response, they start to ask themselves the question: "If citizens can do it themselves, then what is our role?" Considering the complexity of energy infrastructure, however, it is very difficult to imagine that citizens will be able to manage the entire energy system (including production, supply, distribution and maintenance). Citizens, on their part, ask themselves what role they can play in making their energy supply more sustainable.

> *"The society of the top-down decisions, of big corporations telling citizens what to do, is coming to an end. I am convinced that the only sustainable solution for the future is a future in which people have more power over energy."*
>
> (Pedro Ballesteros, DG Energy European Commission, RESCOOP 2011)

The diverse and often contradictory developments in the energy system are difficult to interpret, both for outsiders and well-informed energy-experts. What is directly observable in this mass of complex and seemingly random developments is that the energy system is undergoing fundamental change. One of these constitutive trends is community energy. Although it is not the only driver for the energy transition, and even though its contribution to the share of sustainable energy in the energy mix remains marginal, the explosive growth of community energy initiatives has become a societal movement that indicates rapidly growing societal demand for sustainable and 'self-owned' energy, with (potentially) significant impacts on the larger energy system.

In this practice brief, we will address both the prospects and challenges of self-organised community energy, by investigating community energy from a multi- and interdisciplinary angle. This practice brief is the result of a seminar organised in November 2013. During that seminar, we brought together researchers from different interdisciplinary perspectives on community energy, including: legal studies, psychology, economics, engineering, sociology, policy and political science. All researchers that took part in the seminar have conducted empirical research on community energy initiatives and/or other examples of self-organisation. We used various methods, ranging from in-depth case studies and interviews to document reviews and surveys. A list of participating researchers and the cases that have been empirically studied, are provided in Appendix A and B. While the majority of the case studies are located in the Netherlands, we have also investigated cases in Germany, the United Kingdom, and Belgium. During the seminar, researchers were stimulated to go beyond the critical analysis of challenges and to formulate constructive

[1] Hajer, M. (2011) – see references
[2] Sterk, E., Specht, M., & Walraven, G. (2013)

recommendations regarding the future of community energy. These recommendations are not only directed at policy makers, but towards other actors that play an important role in the emerging field of community energy, such as citizens, businesses, and intermediaries[3].

For this reason, the result is not a "policy brief", but rather a ***practice brief***, directed at all types of practitioners that are interested in further developing community energy. The brief is structured as follows. We will start with an overview of the general field of community energy, what do we understand by community energy and why is this an interesting development to investigate? These questions will be illustrated with a few examples of community energy initiatives. In section 3, the challenges for self-organising community energy are pinpointed. In section 4, we provide practice recommendations on how to deal with these challenges, directed towards various actors involved in the practice of community energy.

2 The field of Community Energy

Community energy initiatives seem to be part of a broader self-organisation trend. Citizens and 'social entrepreneurs' (entrepreneurs with a societal goal) play an increasingly important role in the 'self-organisation' of services and products. Health care, child-care, education, food supply, construction and energy … in numerous domains citizens and social entrepreneurs are taking matters into their own hands. While doing so, they often make use of specific legal constructions and business models, like crowd funding, cooperatives and complementary currencies.[4] This leads to consumers also becoming producers, activists also acting as (social) entrepreneurs, and citizens sometimes taking on tasks that traditionally have been associated with civil servants.

With "community energy" as an emergent driver for energy transitions, some simple questions arise about what constitutes the community in question, why is it different from the current state of affairs and why it would be vital to stay clear from current unsustainability. Put simply: what is community energy? A community has (at least to some extent) a shared matter of concern and shared problem or mission, whether or not its constitutive members understand it in a similar way. In that sense, communities form an important building block for societies: collectively we do more, and more efficiently, than we might individually. But also: communities are important for people's identity construction, sense of place[5], and their idea of collective action. Social processes facilitate the creation and the operation of a community, but might also obstruct change when cultural identity is too strongly based on existing communities and/or averse to change. In this brief we refer to community energy as "those projects where communities (of place or interest) exhibit a high degree of ownership and control, as well as benefiting collectively from the outcomes."[6]

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[3] Intermediaries are organisations that operate in the interface of local administration and community with the role to facilitate and enable the development and smooth operation/set-up of community initiatives See e.g. Community Energy Scotland www.communityenergyscotland.org.uk

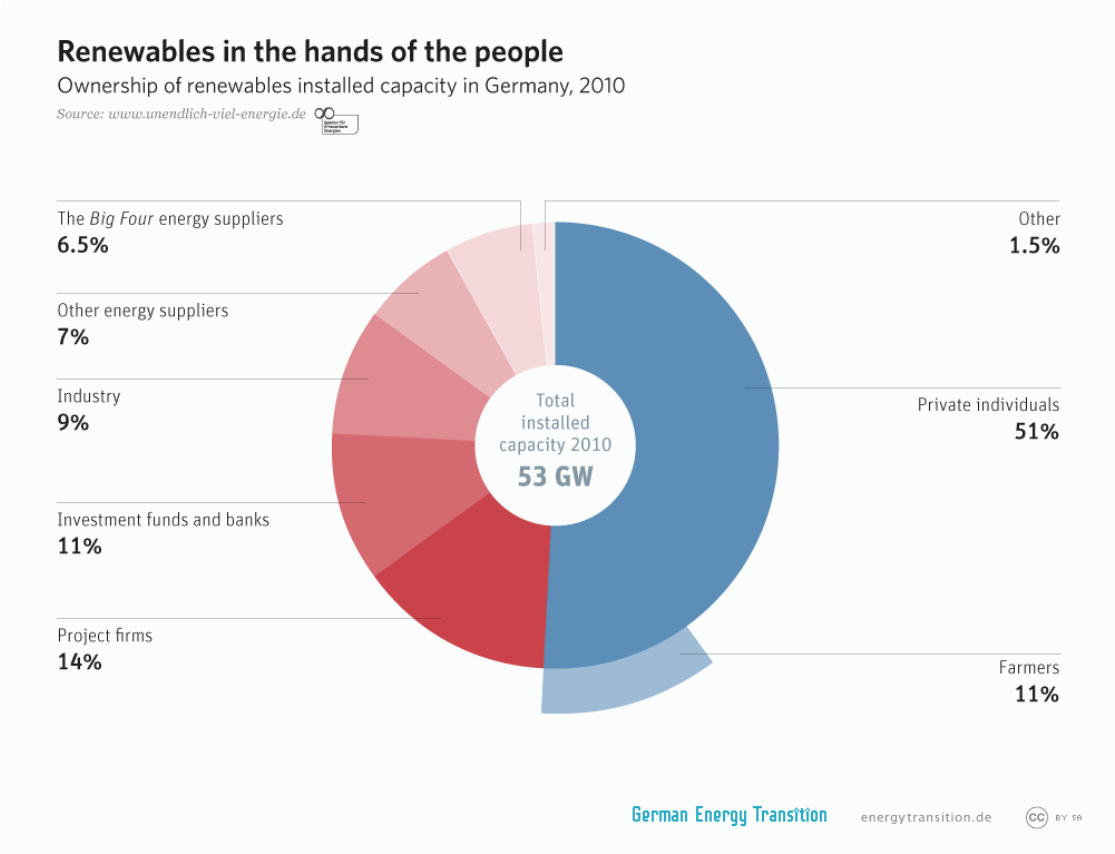
[4] Avelino, F. (2012)

5 Tidball, K, and Stedman, R, (2012), and Devine-Wright, P., (2013)

[6] Walker Devine-Wright, 2008

For this practice brief, we start off from the premise that community energy is an important element in transition processes towards more sustainable energy systems[7], which include fundamental shifts in dominant modes of production and consumption, including social-material and political roles as consumers, producers, citizens, and scientists. Within community energy initiatives, people experiment with such new modes and roles and learn about how (parts of) the future energy system could take shape. Although the impact of community energy on the energy system at large is still rather limited in most countries, developments in Germany provide an interesting example of its potential impacts. In Germany, close to 30% of electricity is provided by renewable energy. Over half of the newly installed renewable energy production capacity is owned by citizens, farmers and energy cooperatives (see Figure 1).

Figure 1. Renewables in the hands of the People (Source: Trend Research, 2011)



Although the share of renewables in the Dutch energy supply cannot live up to the German example, close to 500 energy cooperatives are active in the Netherlands today.[8] There are different ways to categorize such community energy initiatives, depending on the perspective. First, from a technological perspective a distinction can be made between initiatives that are aimed at the supply side of energy, such as solar and wind projects, and those which are aimed at the demand side, such

[7] Verbong & Loorbach (2012)
[8] HIERopgewekt (2013) *Initiatieven*. Available online: http://www.hieropgewekt.nl/initiatieven

as energy conservation, retrofitting of houses and businesses and awareness raising initiatives.[9] Second, from a socio-cultural perspective, we can distinguish 1) initiatives led *by* citizens, such as energy cooperatives or businesses and collective procurement (mostly solar); and 2) initiatives *with* citizens, such as participative area development and government initiatives.[10] Third, from a psychological perspective a distinction can be made based on the main driving motivations of initiators, ranging from commercial initiatives to grassroots, idealistic initiatives. Often, commercial initiatives focus more on the economic gains involved. For these initiatives, main drivers are keeping a lid on energy costs, boosting the local economy, experimenting with new technology and to play into the possibilities that the liberalization of the energy market in Europe provides.

> *"We want to produce energy ourselves… Independent of coal fired power plants in the Eemshaven and instable regions such as the Middle East or Russia. Tens of millions of euros flow out of the towns of the municipality of Castricum into large energy companies abroad. It supports the local economy if we can keep a part of that money within Castricum."*
> *(Calorie, 2013)*
>
> *"We increasingly talk about money and local economy, more than about kilowatt hours, emissions and environment"*
> (interview with *Ecopower*, 13th of March 2013, Avelino et al. 2013)

Many grassroots initiatives, at the same time, are driven by more idealistic non-profit motivations. For these initiatives, climate change and the environment in general form important drivers, often connected to stimulating a sense of local community and autonomy, which sometimes emanates from rebelling against the current large-scale centralized energy sector.

Many community energy initiatives combine both economic self-interest and idealistic motivations, and therein the distinction between self-interest and idealism is often not that clear cut. The point however, is to acknowledge that community energy includes a rather wide variety of initiatives with a different mix of motivations for their actions. In Box 1 on page 8, we highlight four distinct examples of community energy initiatives.

[9] Seyfang et al. (2013)
[10] Schwenke, A. (2012) *Energieke BottomUp in Lage Landen*. AS I-Search.

Box. 1. Four Examples of Community Energy Initiatives

Texel Energy (The Netherlands) is an energy cooperative with 3.000 members and 4.000 customer connections on the Dutch island Texel in the Wadden Sea (North Sea), which harbours 13.000 citizens spread over seven villages. One can become a member for 50 euros a year, for which one receives a share in the company, a discount on the energy price, and a vote in the annual assembly (one member one vote, independent of the amount of shares). Texel Energie was initiated by three islanders and formally founded in 2007. Initially, the main business was to buy and resell renewable energy, but in recent years it also started producing renewable energy (projects in e.g. solar energy, bio-mass and 'anaerobic digestion'), and is working towards also investing in wind, geothermal and tidal energy. One of the main drivers concerns the local culture; Texel has a very strong local identity and an exceptionally strong historical strive for 'being independent'. (Frantzeskaki et al. 2013, Avelino et al. 2013)

Energy cooperative Ecopower (Antwerp, Belgium) aims 'to collect funds for renewable energy projects from as many members as possible'. Founded in 1991, it has grown to an organization with 36.855 members at the end of 2011 with an average of 4,3 shares per individual member (one share costs 250 euro) (one member one vote, independent of the amount of shares). Since 2003, Ecopower also sells energy to its members (electricity and heating). In 2011 Ecopower produced nearly 30 million kWh of renewable energy, owing a total of 11 wind turbines, 3 hydroelectricity stations, 1 biomass installation and 270 solar cell installations (Ecopower 2012). The Ecopower organisation plays an active role in the 'co-operative movement' (e.g. a board member of Ecopower is also a board member of the organization Rescoop Europe). (Avelino et al. 2013)

Schönau EWS (Elektrizitätswerke Schönau, Germany) is a renewable energy provider (99,6% renewables and 0,4% cogeneration in 2010) that serves 130.000 electricity users and 8300 gas users across Germany, and has subsidized a total of 1950 electricity production equipment units, including solar units, cogeneration units, biogas and hydraulic power units. 1,000 shareholders, who receive small annual dividends, own the cooperative. The rest of the profits are re-invested in renewable energy. Schönau EWS has particular historical roots. In the aftermath of Chernobyl in 1986, in the small town of Schönau, a parents' initiative emerged to protest against nuclear energy. After 10 years of protest and debate with the local grid operators, the citizens in 1997 'took over' the grid and Schönau's community's supply, and when the energy market was liberalized a few years later, it started supplying energy to households across Germany. (Avelino et al. 2013, Bosman et al. 2013)

Energiegenossenschaft Odenwald eG (Erbach, Germany) is an energy cooperative in Germany which started in 2009 with over 2.000 members. The regional government and the cooperative Volksbank founded the cooperative. During its first years, the cooperative bank paid the energy cooperative employees. It has invested over €35 million, with €8 million in member shares. The cooperative owns 5 MWp of PV and two windmills and is developing 80 windmills. The cooperative is selling electricity through an external partner under the name EGO-Naturstrom. It plans to take over the role of electricity supplier by itself when it reaches over 1.000 customers. The cooperative is developing a heating grid in the city of Erbach. The 'House of Energy' is being built in a former brewery, which will function as a nexus for energy related enterprises. (Boontje 2013).

3 Challenges for Self-organising Community Energy

The development of community energy faces several challenges. First, challenges arise as community energy is a relatively new development that is often at odds with the dominant culture, structure and practices of the current energy system. This means that community energy initiatives have to deal with barriers resulting from institutional logic, rules and business models that have evolved over decades around a centrally organized, large-scale fossil fuel energy system. Second, community energy is a social affair, meaning that initiators have to deal with different kinds of people, worldviews and levels of commitment. Third, and connected to the second challenge, every community is different, meaning that there are neither one-size-fits-all solutions nor universal operation-models to imitate or apply.

In order to structure our discussion on the challenges facing community energy, we start with three overarching challenges that were identified as essential for initiating and sustaining a community energy initiative: trust, motivation and continuity. Then we move on to four dimensions from which challenges to community energy initiatives arise: 1) economic & financial issues, 2) legal barriers, 3) socio-cultural conditions and 4) micro-political struggle & conflict. We then synthesize the insights about challenges across the four dimensions by discussing what these challenges mean for (self)-governance of community energy.

3.1 Overarching Challenges: Trust, Motivation and Continuity

A fundamental issue in the success or failure of community energy is **trust**. Generally, citizens hold governments and/or large energy companies responsible for solving energy related environmental problems. However, there is an increasing sensation amongst citizens that these institutions have so far not been able to put the energy system on a more sustainable track. Therefore, participants in community energy initiatives often have more trust in their own initiative to contribute to sustainable energy, than in government or energy companies. However, not everybody shares that trust. Since energy security is vital for the functioning of society, there needs to be trust that initiatives deliver on their mission and objectives; or put simply, trust that these new alternatives work. The more people trust such initiatives, the higher chances are that they will participate as a consumer or as a volunteer. Also for legal and institutional adaptations to support community energy, decision makers need to have a certain level of trust in citizens' initiatives. As such, many of the specific challenges that we will discuss in this section, whether they are financial, legal, or organisational, in the end all come down to trust.

> *"Energy co-operatives represent a sustainable way of producing and distributing energy. In an energy market which is heavily dominated by a few, huge players and where suspicion prevails, energy co-operatives can help rebuild a trust relationship by involving people in decision making. It is extremely important to rebuild the idea of 'we'. Co-operatives can give a great contribution to this. With its democratic governance, the co-operative business model strengthens social integration and cohesion and helps mutually beneficial achievement of goals".*
> (Nikos Chrysogelos, Member of the European Parliament, RESCOOP 2011)

Furthermore, community energy relies on **motivation** of people to 1) switch energy provider, and 2) invest free time and other resources in helping to build up a new energy system. Motivation is a very precarious issue. Some people are starting or joining community energy initiatives, while others do not. Insights into the motivation behind such decisions, lead to a better understanding of how and why the system is changing. An especially challenging issue is keeping people motivated to invest their (often voluntary) time and resources in community energy initiatives over longer periods of time, and to keep doing so even when the road gets tough.

Motivation to join a community energy initiative
"I went to one of these anti-nuclear power events and there I met people from Schönau EWS. I am very impressed by their independence and courage to organize themselves and do what feels good for themselves. It feels very good to get electricity from them and not from a corrupt company that sells cheap energy." (interview with participant in Freiburg co-housing, 24th of May 2012, Avelino et al. 2013).

Thinking about sustaining motivation over longer periods of time leads us to the third overarching issue of **continuity**. Currently, community energy may receive attention from politicians, businesses and citizens and attracts passionate proponents. But new technologies become old, or even worse: standard. Moreover, communities can change over time because of migration, changing values, or simply because the next generation replaces the existing one. Is self-governance viable and desirable once the parties no longer have a sense of community or the will to actively participate? Doesn't low participation delegitimise representatives and their decisions? Under what conditions can a party leave the community energy initiative without harming itself or the community? This poses questions of 'how to maintain trust?', 'how to sustain interest from members and volunteers?', 'how to sustainably run a voluntary organisation?' and 'how to keep a community together?'

3.2 Economic and Financial Issues

When zooming in on the economic and financial challenges of community energy, several issues become apparent. First, community energy often represents a very **complex contractual arrangement** between a great variety of heterogeneous individuals, companies, governmental institutions (municipalities and provinces), and non-profit organizations. In light of the diverging interests amongst involved parties and coordination required to establish, implement, and enforce any agreement between them, the entrapments of incomplete contracting lurk. Further complicating matters is the interpersonal relationships between the parties involved in community energy. A strong sense of community seems a prerequisite for successful collective entrepreneurship, as does the presence of a 'champion' who mobilizes the community, also in rough times[11]. Yet the risk of free riding behaviour and an unequal division of the costs and benefits will test any community: even good friendships can fail when money issues enter the picture.

[11] Westley, F. R., O. Tjornbo, L. Schultz, P. Olsson, C. Folke, B. Crona and Ö. Bodin. (2013).

Second, several community energy initiatives are struggling with their **business models**. On the one hand, this is due to strong competition in the energy field and volatile investment regimes due to changing government regulations and uncertain investment horizons. On the other hand, these initiatives often have a multiple bottom-line, in which not only monetary costs, but also environmental and social performance play a role. This is further complicated by members having different ideas on where the optimum between these performance indicators may be. The fact that all members have a say in where it should lie, can lead to lengthy discussions on which business strategy to follow and where revenues should land.

Third, community energy initiatives are relatively new, which makes experience with different business models scarce. **Lack of experience** sometimes makes it difficult to get projects funded by banks and institutional investors, especially when the initiative has not yet been able to prove that it has the organisational capacity to carry out capital-intensive projects in a professional manner.

Financial challenges in practice
"*[Our business model] was new – we were one of the first of this type of initiatives in NL – we really had to invent everything ourselves. (…) [as such a barrier is]… financing, especially for production – the banks are very hesitant. We need half a million, that is so much money… you cannot finance that with 3000 members. (…) It is especially the banks that create difficulties for us – because they don't know our model we have a very high risk profile*"
(translated from interview Texel Energie, 14th of May 2012, Avelino et al. 2013).

3.3 (Perceived) legal Barriers

It is often argued that energy laws and regulations raise several constraints on community energy. All initiators of community energy projects face legal challenges, at least to some extent, as they are subject to laws and regulations such as the Electricity and Gas Act in the Netherlands.[12] In this section, some apparent legal restrictions are examined as well as the *perception of* legal constraints. We find that at times, the latter form a larger barrier than actual legal restrictions.

One of the main legal barriers for community energy is that energy suppliers are obliged to acquire a license of supply.[13] In order to get such a license, the applicant needs to create a financial and administrative system for the different financial and energy flows. The license also holds an obligation to provide energy to anyone who requests so, regardless of the size of the production-unit or source. In the traditional energy system, which knows a strict division between supplier and consumer, such a provision makes sense. However, now that consumers increasingly start to produce

[12] Elektriciteitswet 1998 and Gaswet
[13] S. Akerboom, G. Buist, A. Huygen, A. Ottow en S. Pront, Smart grid pilots. Handvatten voor toepassing van wet- en regelgeving, deel 1 en , Amsterdam, Centrum voor Energievraagstukken, september 2011.

energy themselves, and wish to exchange this within the community, the conditions of the license create a problematic threshold for community energy initiatives.

Next to apparent legal constraints, such as the license of supply, it is striking that initiators of community energy initiatives sometimes believe they are not allowed to undertake particular activities, while in fact the law does not restrict these. These perceived legal restrictions and lacunae in legal knowledge amongst initiators might constitute an obstacle for the progress of the project. The reason for these perceived legal constraints might be found in the history of energy regulation. Community energy initiatives are a relative new party to the market. When energy regulation was drafted, this development had not been foreseen, leading to restrictions and/or to legal gaps that may cause perceptions of legal restrictions.

While legal gaps sometimes provide opportunities to initiators, empirical research shows that amongst community energy initiatives these gaps can also create confusion and (perceived) restrictions. Contributing to the confusion is the often rather limited legal explanation by administrators, which reads something like "since a certain project or initiative is not envisaged, it is not possible". In most cases our legal system actually works the other way around: if an activity is not envisaged, it is actually allowed.

(Perceived) legal barriers in practice

"There is a lot of talk about getting rid of laws and regulations. We do have a lot of laws and regulations, but they are not there for nothing. We should deal with those laws and regulations more creatively … and be careful not to blame everything on regulations. We should particularly be careful to say that we need to get rid of legal barriers. You should check out this whole discussion about the electricity law – there are endless discussions about everything. It is very difficult to pinpoint what are the exact legal barriers that can be abolished. Rather we should stop thinking in terms of barriers and think more in terms of opportunities. We [Dutch] think in terms of limitations and not in terms of possibilities. If you ask a farmer how high his barn will be he will ask "how high is it allowed to be" and then if one says 6 meters, the farmer will say he wants 6,5 meters". (translated from interview Texel Energie, 14th of May 2012, Avelino et al. 2013).

3.4 Socio-cultural Context

Community energy initiatives are highly dependent on socio-cultural factors. This includes intrinsic motivation at the individual level, as well as the relationship between the parties involved and their surroundings. A strong sense of community seems to be a prerequisite for successful collective entrepreneurship, as does the presence of a 'champion' who mobilizes the community in rough times. Case studies of local energy cooperatives show that people who *start* a cooperative have strong personal drivers which stem from values and beliefs, but also from relevant professional knowledge and skills. This means that they are high on 'self-efficacy': knowing what to do and how to

do it, applying knowledge and skills they have acquired earlier on. Self-efficacy is also an important driver for people who *join* a cooperative as a member, consumer or volunteer. In this regard, there is still ample room for improvement, as many people still doubt their capacity to contribute to local energy. Participation can be broadened and deepened by spreading knowledge of the "how", for example by showing successful examples of community energy, or by other forms of education. Moral responsibility and environmental awareness are also related to participation; albeit less than many would expect. Initiators of community energy are often environmentally conscious, but seem more driven by the belief they have the right skills to actually contribute to shaping their environment.[14]

Besides the availability of a community 'champion' with a high level of self-efficacy and certain skills to mobilize his/her environment, the spreading of knowledge and skills is for a large part also dependent on the social context in which participants operate. Many successful cases of community energy seem to be driven by strong embedment in a socio-cultural context that favours a cooperative, citizen-led approach[15]:

- Cooperative energy company *Texel Energie* on the Dutch Waddenisland Texel is embedded in a culture that is historically prone to strive for islanders' independence from the mainland
- Community led heat company *Thermo Bello* is embedded in the eco-community of *Eva-Lanxmeer*, for which self-sufficiency lies at the core of its raison d'être
- The Belgian energy cooperative *Ecopower* is intertwined with the transnational cooperative movement, which has strong agenda regarding socio-economic sustainability
- The Scottish community wind projects of *Udny* and *Urgha* are embedded in a network of community energy initiatives, as well as in Scotland's historical culture of self-reliance and independence
- The German energy company *Schönau EWS* has originally sprouted in an anti-nuclear movement, which in Germany is strongly intertwined with the civil environmental movement.

Not only do these 'socio-cultural contexts' provide participants with knowledge and skills, they also feed a certain 'desire' to somehow distinguish themselves from the mainstream, dominant way of doing things, as well as encouraging them to think and act differently. Deviating from the mainstream norm comes with much hassle and risk, and as such it requires a very strong motivation and supportive environment. This is what the socio-cultural contexts provide: whether it is an island, a town, an eco-district, a network or a social movement, what they have in common is a strive for independence and self-sufficiency, and/or a strong social critique of established governmental and commercial arrangements. Moreover, the sub-cultural context also provides the initiative with a sense of 'community' and/or a sense of place, which in turn help participants to persist and insist despite of many institutional barriers, unexpected events and disappointing let-downs. The importance of such socio-cultural context also raises a challenge: such a context cannot be created or planned, and often takes decades to develop. Moreover, these socio-cultural contexts also come with micro-political conflict and struggle, as we will discuss in the next subsection.

[14] Paradies et al. 2013
[15] Avelino et al. 2013

3.5 Micro-political Struggle and Conflict

While emphasising the importance and positive value of a strong 'community', we should not close our eyes to the fact that communities are sites of (micro-)politics, thus including struggle and conflict. The risk of free riding behaviour and an unequal division of the costs and benefits will test any community. Biogas projects have suffered from farmers having family quarrels that go back ages in time, impeding them to achieve agreement in current projects. This is also 'community'. Besides such tensions in the 'history' of existing communities, we also find tensions in the creation of 'new communities', which inherently comprises conflict and struggle. However, perhaps the main challenge here is not the struggle in itself, but rather the idea that such tensions are problematic and should be avoided. Conflict and struggle can also be viewed as being 'productive'.

Many "community energy" projects bring together new groups of people. Discussion and organizing energy is new for many people, especially with regard to the community in which they engage. The organization around energy problems develops interesting tensions with the inherited customs of communities and the sense of citizenship borrowed from communities in which energy (e.g. through the universal electricity sockets) is almost entirely taken for granted, and citizens are simply consumers. Through exploring 'self-organisation', citizens start to access new issues like grid regulations, ownership, relations to energy companies, and to explore the meanings of these in relation to their lives. Community energy initiatives can also enable dialogues about broader challenges such as environmental protection and lifestyles. For this, the initiators of the community energy can create discussions and learning events where not only energy but broader topics can be debated, reframed and learnt.

By re-thinking energy, people come to revalue what their community and their cultural identities are about. Through community energy, people involved think beyond their current community ties; a space opens up in which they can deny their existing community memberships. As such, 'community energy' provides an undetermined space through which communities and cultures might become objects of contestation and renegotiation. Community energy stands for culture as a process, rather than culture as a possession. One does not 'have' a predetermined culture, rather one is involved in constantly (re)creating it: a process in which heritages of identities and practices are redefined in light of new goals and challenges.

Successful initiatives manage to use community energy as an undetermined practice for experimenting and critically rethinking existing structures. Less successful ones try to copy a generalised ideal of what an 'energy community' should looked like, without critically questioning to what extent existing community structures and members actually (want to) fit that ideal. As such, we should be careful not to generalize 'a community energy culture'. This is not some generic set of habits and practices, but rather a place in which people reinvent and reconstruct their community and its relation to energy, which unavoidably involves conflict and struggle.

3.6 The Challenge of (Self-)Governance

Energy provision has become a matter of extensive technological infrastructures, large investments, and coordination issues on national, supra-national and even global scale. Arguably, centralized control is needed to keep energy provision efficient, reliable and affordable to all. Besides some obvious advantages, centralized control has disadvantages too – both in terms of control and inclusion, and in terms of its results and sustainability performance. It tends to leave citizens and communities as rather passive consumers, with little control over energy production and with limited opportunities to change it towards a more sustainable and desirable practice. Therefore, self-governance by communities is often hailed as a desirable way forward. It is often associated with lofty democratic ideals, referring to an individual or group of people that exercise control over oneself or themselves. In the context of community energy systems, it refers to "a high degree of involvement of local people in the planning, setting up and, potentially, the running of the project" and to the local collective distribution of benefits.[16]

While noble, the practical reality is that self-governance essentially represents a very complex arrangement between a great variety of stakeholders. The success of community energy initiatives in turn depends to a great extent on the ability of the community to govern not only the project, but also its members. The main challenge of (self-)governance of community energy is essentially to find modes of organization and to design proper organizational principles and policies that help deal with the challenges as described in sections 3.1 – 3.5. These challenges are not unique to the case of community energy, but also apply to other cases of self-governance (see the traffic safety example of Shared Space in text box 2). The challenges described include technical issues of legal arrangement and business models, but also more intangible issues around socio-cultural identities, trust and power struggles. Can these dilemmas be dealt with by *self*-governance, or do they also require other forms of more top-down governance? And what exactly do we mean by 'self-governance'? In this last section we aim to synthesize the challenges for (self-)governance.

First, in how far does a community possess the necessary abilities and know-how to self-govern the establishment and execution of a community energy initiative? While the managerial skills might be challenging enough to acquire, it is even more questionable in how far the common operation of an energy network is a possibility. Much literature on self-governance comes from Ostrom's Nobel price work on common pool resources that builds on empirical cases with successful management of public goods. Conceptualising renewable energy as a public good, similar governance challenges to common pool resources are of concern. Can we always ensure that individuals behave responsibly? Who ensures that performance criteria (availability, affordability, and sustainability) are upheld? If a network company operates the system in name of the community, is it still self-governance? Moreover, the party who operates the network holds an information and strategic advantage. Will a community be able to regulate it in order to avoid abuse?

[16] Pp. 498 of Walker, G., & Devine-Wright, P. (2008). Community renewable energy: What should it mean?. Energy policy, 36(2), 497-500.

Another important factor of self-governance of community energy is the interpersonal relationship between the parties involved. The challenges involved in community building – as discussed in the previous sections – raise various questions, such as a) how can unwanted behaviour be prevented; and b) how can it be punished/disciplined? Monitoring and bonding are two strategies that help here, but require extra effort by the communities' members. In addition, how to handle parties of a community that are simply unwilling to cooperate but whose participation (or territory) is instrumental for the success of the initiative (as was the case in biogas initiatives introduced earlier which suffered from farmers having family quarrels going back ages, impeding on achieving any agreement)?

The third challenge of 'self-organisation' and 'self-governance', is that it is often unclear who exactly the 'self' or the 'other' is. Blurring boundaries between different sectors (market, state, community) means that it is not that clear anymore what is 'bottom-up' or 'top-down', the 'self' or the 'other'. Citizens seem to become bureaucrats, consumers become producers, and activists become entrepreneurs. The 'self' in self-organisation ranges from 'self-reliant citizens' and 'self-serving consumers', to 'self-governing municipalities' and 'self-employed social entrepreneurs'. None of these 'selves' fit within the prevailing socio-political categories, hence many public and academic debates revolve around (re)defining social and political categories. This is why in the next section, we start with a multi-actor perspective that helps to specify the different actors involved in the (self)-governance of community energy.

Text Box. 2. The Challenges of Self-governance in the example of Shared Space: lessons from the field of traffic management for community energy (Pel, 2012)

Shared Space is an initiative towards community involvement in the management of traffic and public space. According to the Shared Space view, current traffic order is characterized by excessive governmental control, i.e. a rampant 'forest' of traffic signs, lineage, traffic lights, fences and traffic separation devices. Arguably, this street furniture and regulation has helped towards achieving our remarkably safe and efficient traffic system, characterized by (relatively) low numbers of traffic casualties and smooth traffic flow. But against these achievements of centralized control, Shared Space points out several shadow sides:

- The centralized control also creates 'pseudo-safety', as citizens' self-organising abilities are cancelled out and people forget to act on their common sense.
- The widespread use of street furniture compromises the quality of public space, as it is increasingly turned into an ugly traffic space
- It leads to 'interpassive' rather than interactive social relations, in which social interaction between people is delegated to technology. In traffic we all too often look at the traffic lights above us, rather than at our fellow citizens next to us.
- It reflects how current traffic order is shaped for, but not by, citizens, and maintains 'technocratic' governance relations.

⇨ ***Continuation on next page***

⇨ **Continuation of Text Box. 2. The Challenges of Self-governance in the example of Shared Space: lessons from the field of traffic management for community energy** (Pel, 2012)

In order to address these shadow sides of centralized control, Shared Space proposes two clusters of solutions:

1. Alternative spatial designs of more or less 'naked' streets. These streets are not divided through fences, lineage and traffic lights etc., but typically invite the mixing of traffic. Right-of-way is negotiated through social interaction, through eye contact, and people are forced to take each other into account and to be alert.
2. Participative design of public space and streets. The point behind this is that citizens should not only be self-organising when using streets/public space, but they should also have more say in the shaping of public space. The very process of designing traffic and public space has become dominated by traffic experts, and inclusion of citizens is therefore a goal in itself.

Lessons from Shared Space for community energy.

Shared Space practice shows that traffic safety can be based more on social behaviour, rather than centralized control. But its practice also shows how the self-organisation of some (the emancipated, firm traffic participants) could go at the expense of others (the visually impaired, the 'vulnerable' traffic participants such as elderly people, children, bicyclists). These are typical side effects that could disqualify an innovation – but they can also be addressed as opportunities for fine-tuning. Shared Space proponents and organizations for the visually impaired jointly set up a research project to address these side-effects – developing Shared Space further, rather than getting stuck in adversarial politics.

And how can such self-organisation be undertaken, when it still has to take place within the centralized systems that exist today?

Self-organisation is often pitted against government-led arrangements. But Shared Space practice reminds that also a 'self-organising' traffic order relies on a great diversity of actors, each with their visions and agendas: traffic engineers, policemen, the road itself, road users, administrators and politicians, and the various elements of 'street furniture' that steer behaviour. Moreover, the self-organisation is to be done with weaker and stronger citizens, at different speeds. For community energy this analogy suggests that it may not be wise to strive for purely isolated 'off-grid' and stand-alone systems – think of the organisations, people and technical systems that *allow self-organisation to take place*.

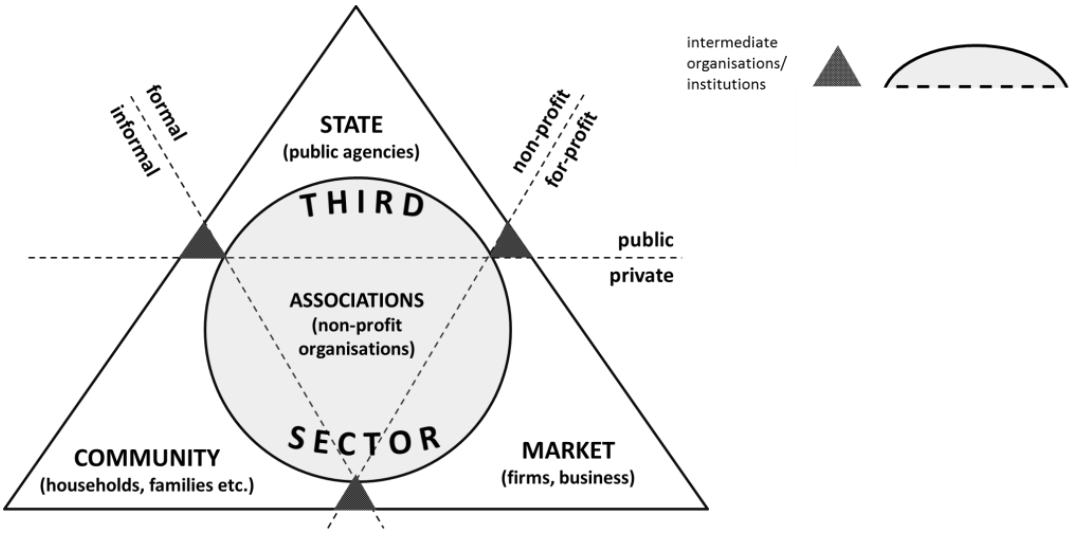
4 Multi-actor Recommendations

After having identified a great number of challenges in the previous chapters, it is now time to constructively consider how to interpret and deal with these challenges. Based on our research insights, we aim to formulate practice recommendations for the (self-)governance of community energy. Rather than merely formulating regulatory or budgetary recommendations for policy-makers, we explicitly aim to discuss how *a variety of actors* can play a role in improving the conditions for the (self-)governance of community energy. Therefore, we propose to look at community energy from a Multi-actor Perspective, which we will shortly introduce before we apply it, so as to systematically identify individual and organisational roles and practice recommendations for a variety of actors.

4.1 Introducing the Multi-actor Perspective

The Multi-Actor Perspective (MaP[17]) distinguishes between different types of actors at three different levels of aggregation: 1) sectors, 2) organisations/groups and 3) individual roles. At the level of sectors (see figure 1), the **state** is characterised as non-profit, formal and public; the **market** as for-profit, formal and private; and the **community** as non-profit, informal and private. Finally, the **Third Sector** is conceptualised as an intermediary sector in between the three others. It includes the 'non-profit sector' but the Third Sector is also broader than that; it also includes many intermediary organisations that cross the boundaries between private and public, formal and informal, profit and non-profit. Examples of such intermediary organisations are 'not-for-profit' social enterprises, universities, cooperatives, and community networks.

Figure 2. Multi-actor Perspective. Source: Avelino & Wittmayer 2014



At the level of sectors, the distinction is based on general characteristics and the 'logic' of a sector (i.e. formal vs. informal, for-profit vs. non-profit, public vs. private). In each of these sectors,

[17] Avelino & Wittmayer 2014, based on Evers & Laville (2004:17) and Pestoff (1992:25).

'individual' human beings tend to be constructed in a different manner, stressing a specific role, ranging from 'resident' or 'neighbour' to 'citizen' or 'consumer'. Most of the time, one individual simultaneously has different roles in different sector logics, e.g. a policy-maker is also a father, neighbour, consumer and possibly a volunteer in his free time – this is why we speak of individual *roles*. Equally, organisations or other social entities such as 'groups' or 'networks' may also operate in different sectors simultaneously, e.g. cooperatives can combine the logic of the market, the Third Sector and the community within its organisational fabric.

4.2 A Multi-actor Perspective on Community Energy

The purpose of the MaP is not to categorise organisations or individuals within one category or the other, but rather to explore how – in a specific context such as community energy – individuals, groups and organisations act and relate within different sector logics. Furthermore, it provides insight into which sector logic tends to be 'dominant' in the actions and discourses of specific organisations, groups and individuals.

We can safely argue that, in the past century, the energy sector has been dominated by a two-sector logic of state-and/or-market. Over the past decades, energy provision has been centralised, privatised, and formalised in complex public-private contracts. The emergence of community energy challenges this two-sector model, and a new logic of the Third Sector and 'the community' has entered the stage. While the combination of state and market in the past already blurred the boundaries between public and private, profit and non-profit, the emergence of community energy initiatives leads to much more complex blurring of boundaries.

First, the dominance of the state-versus-market-logic has led us to nearly automatically associate the 'private' sphere with a 'for-profit' logic. As such, many of the laws and regulations that deal with the 'private' sphere are designed to regulate commercial market processes. This does not fit to the non-profit or not-for-profit logic of community energy initiatives and the Third Sector. The vague concept of 'not-for-profit' complicates things further. Many energy cooperatives do make profit, and do distribute it amongst their members. However, making profit is often not the main objective of energy cooperatives, many of which have societal sustainability objectives. In these 'not-for-profit' cases, the question arises whether 'the law' (i.e. state logic) should treat these instances as *for-profit* or *non-profit*. The binary logic of the dominant two-sector model (either state or market) does not allow for much nuance between one or the other.

(Unfitting) state logic in practice

[Many laws that are made by central governments are] "a bureaucracy that aims to protect consumers… but we as local energy companies are the victims. The irony is that we ARE the consumer… we want to do it ourselves, but the government says 'that is not allowed, because we decide what the logic should be' (…) I really worry about this because the gas and energy prices are going to rise and the laws and regulations about heating prices will depend on the gas price. This means that we [as local energy initiative] will also have to base our energy prices on a global casino… We get stuck in a bureaucratic mill that does not allow us to take our own responsibility" (interview Thermo Bello, 23rd of February 2012)

This also relates to another dilemma, that being the distinction between 'formal' and 'informal'. While community energy initiatives often get formalised after a certain point and to a certain extent, there are significant elements of informality in the set-up and development of these community initiatives. Many volunteers whom get involved with community initiatives also prefer an informal and 'trust-based' sphere over a formalised setting. This may create tensions with the formal requirements prescribed by the formal logic of state and market, especially when these formal requirements do not fit not-for-profit context, as described earlier.

When we look at (the challenges of) community energy from a multi-actor perspective, and ask ourselves what kind of recommendations we can make for (self-)governance, there are three main overall comments to be made. First, when proclaiming ideals of 'self-governance' and 'self-organisation', it is important to be clear and critical about who the 'self' and the 'other' is supposed to be, and to realise that this distinction between the self and the other is not that clear cut. It is especially not clear-cut in the case of 'for-profit' versus 'non-profit', 'formal' versus 'informal'. Second, a related recommendation is to be aware of the naivety that often comes with informal and 'trust-based' spheres of community-development and idealistic discourses on (self-)governance. New concepts and blurring boundaries are by definition accompanied by contingencies and unexpected tensions. (Self-)governance needs to safeguard that it can cope with such contingencies and to acknowledge the importance of discussing these before starting the cooperation. Much like marriage knows the possibility of a prenuptial agreement, planning for contingencies may not be romantic, but it sure helps create clarity and trust among the participants in case of difficulties that arise along the way.

Third and last, but certainly not least, the multi-actor perspective serves to remind us that the (self)-governance of community energy involves a variety of sector logics and *different types of actors*. Organisations and individual actors play different roles in each sector logic. The logic of 'the state', for instance, is not only decided on by policy-makers, but – in the case of a democracy – also shaped by citizens who vote for certain politicians and who abide by laws, or by legal experts and other specialists who advise governments. As such, when we formulate community energy recommendations for 'the state', we do not only target policy-makers that work within government organisations, but also other actors who are involved in shaping and reproducing the logic of the state, such as citizens, voters and organisations. The same applies to the logic of the market, the community and the Third Sector. In the next few sections, we will formulate recommendations for each of the four 'sector logics', specifying the roles of different actors within those logics.

4.3 State Logic Recommendations

The state logic is characterised as non-profit, formal and public. Essentially, the state logic is to safeguard 'the public interest'. One of the main instruments that governments use to do so, is the law, by which it establishes rules for citizens and other (collective entities) that are subject to the law. Generally speaking, a process of standardisation and formalisation is required in order to safeguard equality before the law. However, too rigid standardisation can exclude new innovative sustainable solutions, therefore creating undesired legal barriers with respect to emerging new

phenomena such as community energy. This causes several (perceived) legal challenges with the regulation of community energy, as discussed in section 3.3.

First, community energy initiatives face many legal constraints and secondly, there is a strong *perception* of there being too many legal restrictions. To resolve the first category of problems, government officials hold the mandate to change their Electricity, Gas and Heating acts in order to avoid or limit these problems. Sometimes it is a matter of simplifying laws on certain provisions so that projects can overcome the perception of legal restrictions that dis-incentivizes people further. Government officials could also fulfil a role as an educator or information officer when it comes to obligations, possibilities and conditions for community energy. Furthermore, we suggest that at times there is also need for a shift in culture and attitude amongst public administrators, so that new energy initiatives can be viewed as opportunities for co-creating new formal arrangements that serve the public interest, rather than being merely viewed as 'difficult' exceptions that are most easily dealt with by avoiding them. Essentially, the main recommendation for government officials is to approach the challenges of community energy as an opportunity for dialogue about and co-creation of new and improved regulation.

However, such attitude of dialogue and co-creation on the side of government officials also requires a shift in attitude on the side of citizens and other subjects of the law (i.e. organisations). Bureaucratic practices are regularly ridiculed for their strictness or contradictory ironies. Often, however, these seemingly 'ridiculous rules' have an underlying logic that not only makes sense, but turns out to be particularly difficult to replace or adapt in any standardised rule. A constructive dialogue about legal transformation requires not only willing policy-makers, but also citizens and organisations that acknowledge legal complexities.

The responsibility of 'the state' to represent the public interest, also includes a responsibility for considering a **long-term** perspective and critical scoping of potential unintended side effects of current developments. Often, it is argued that as the representative of the public interest, governments are responsible for considering sustainability issues in terms of (unintended) effects on future generations, or externalisation of ecological and social hazards. However, at the same time, governments are also subject to short political cycles of 4 to 5 years, and with that susceptible to the pressure of public media around everyday eventualities. Moreover, governments are also under pressure when it comes to ensuring an 'attractive investment climate' for businesses (sustainable or not), and for ensuring tax revenues. In the case of the Netherlands, the government receives over €22 billion euros of (tax) revenues on energy, predominantly from fossil fuels (PBL, 2011). Such dependency by governments on existing fossil fuel sources can hamper the support for community energy.

This then raises the question which actors are responsible for bringing long-term sustainability issues around community energy on the political agenda and into the public consciousness. Besides government officials and politicians, there is also a clear responsibility for voters and media organisations to demand political attention for the long-term sustainability of community energy. Moreover, one can argue that such responsibility lies first and foremost with those actors who can afford to take the time to systematically ponder on such issues as long-term and unintended side

effects, e.g. researchers, writers, advisors and research journalists. As such, an important part of the recommendation within the state-logic is directed towards knowledge institutes:

- To take into account the broader spectrum of macro-trends that take place in the energy sector;
- To consider the implications for market, policy and third sector of the gap between the missing long-term vision and the determined medium-term targets such as energy security;
- To identify potential side effects of community energy self-organisation, e.g. social exclusion, disruptions in community, freeriding issues, abuse by 'commercial cowboys', rivalry and conflict between a variety of initiatives, etc.;
- To combine interdisciplinary and transdisciplinary approaches, including quantitative and qualitative, instrumental and critical, descriptive and prescriptive, retrospective as well as prospective types of research, and to translate subsequent insights into the public domain.

Moreover, there is also a responsibility amongst community energy initiatives to engage in the political contestation of the state logic around sustainable energy. Community energy initiatives are often embedded within strong social movements (see section 3.4). Some of these movements have a tendency to refrain from political engagement due to a lacking trust in the governmental system. Others underestimate the potential influence they could have on political parties by feeding specialised parliamentary committees with information and experiences, thereby providing members of parliament with ammunition to question incumbent government policy.

Another issue that has received increasing attention in the development of community energy, is that of 'letting go', i.e. what the government should *not* do. There has been quite a lot of talk on 'big society' (UK) and the 'facilitative government' (NL). We believe that it is vital for governments to ensure the creation of supporting structures to enable energy community initiatives to acquire continuity and professionalism. However, this does not necessarily mean that governments have to create and operate such structures themselves. In certain contexts, Third Sector organisations may be better equipped and more experienced for supporting community energy initiatives (see also section 4.6). The recommendation to governments is to ensure financial and legal support to such Third Sector organisations, i.e. to support intermediary organizations (e.g. platforms, networks etc.) to continue their role. With this recommendation, we question discourses that too easily reject subsidies as a governance tool, and we warn against implicit or explicit conclusions that all forms of subsidies should be avoided altogether. We should be careful not to generalise the use of subsidies, and to distinguish between financial government support for Market, Third Sector or Communities.

The Role of Government
"Now government officials are all over us and other initiatives (…) they made a mess of (un)sustainable energy themselves and now they see all these nice citizens initiatives and they want a piece of it. Would it not be nice if we could simply leave it up to citizens? Government should learn to let go of what they can let go" (…)(confidential interview, Avelino et al. 2013).

4.4 Market Logic Recommendations

The market logic is characterised as for-profit, formal and private. Essentially, market logic refers to the coordination of demand and supply of goods and services, including the transactions between actors in the pursuit of maximising utility. It is safe to argue that the energy sector has been dominated by market logic over the past few years. Within this market logic, centralised systems of energy provision have become dominant, due to economies of scale and their supposed efficiency. The development of community energy is questioning such centralised systems by introducing a sense of community and local ownership. For community energy, this comes with various challenges of acquiring financial resources and finding the right business models (as discussed in section 3.2.).

When taking into account these and other challenges that community energy initiatives are faced with, an obvious recommendation within the market logic can be directed towards businesses, including financial service providers: to develop complementary services for community energy initiatives. Businesses could position themselves as specialists that can complement cooperatives by executing tasks better, quicker and/or cheaper. In a changing energy landscape, businesses should be open to explore new roles and responsibilities, and to invest in new technologies. Moreover, businesses could address community energy initiatives as a platform that represents the interests of the energy consumers or 'prosumers' in a region. Consumers and prosumers in turn can articulate their collective demand for sustainable and local energy so as to 1) support community energy initiatives, and/or 2) challenge incumbent energy companies. In this way, the development of community energy can be viewed as a new process of 'supply-demand-deliberation'[18], in which several different actors play a role. Also governments are important in this respect, as public procurers, bidders and commissioning authorities, in terms of sustainable procurement of energy services (including the social dimension of sustainability, such as tenders that favour participatory ownership of energy), and in terms of revisiting the business models of collective energy arrangement at the local level.

Initiators of community energy initiatives – which in the market logic can be constructed as 'social entrepreneurs' – themselves are also an important player in (re-)shaping the energy market. Some energy cooperatives consider themselves a business more than anything else (i.e. more than a public or Third Sector institution, and also more than a community initiative). However, also other community energy initiatives that do not consider themselves as commercial businesses, are a player in the market and need to (re)position themselves therein. The challenge is to find new ways to create value in the energy market, and to develop new business models that build on the knowledge or replicate practices of other successful community energy initiatives. Moreover, when e.g. energy cooperatives are starting, it is vital that they provide a clear proposition to their future members. In the market logic, a cooperative represents institutionalized self-interest, and when the cooperative is able to effectively address individual needs, it will be able to permanently position itself in its field. From that perspective, it is essential that members see a personal gain in joining the cooperative. Therefore it is advised to start with one or two clear propositions, create exposure, and after several successful projects, the cooperative could experiment with expanding into other specialisations.

[18] As coined by Jurgen van der Heijden in Bosman et al. 2013

Such (re)positioning within the market also requires information on the 'demand'. In the case of community energy, this requires more than standard 'market research' amongst (potential) 'consumers'. It is also about understanding the motivation of people to join energy initiatives not only as 'consumers' but also as 'prosumers' and/or as engaged volunteers/ activists. There is an increasing field of psychological studies and other social science research on individual and collective motivations underlying community energy initiatives.[19] These studies can provide insights and information that can be useful for community energy initiatives to (re)design their market strategy and to acquire more support (in the form of consumers or members).

4.5 Community Logic Recommendations

The community logic is characterised as informal, non-profit, and private. The element of informality is its most distinguished and fascinating feature. Often, when we think of this community sector, we tend to think of it as the collective of 'citizens' and 'consumers'. However, as we explained in earlier sections, the very notion of a 'citizen' rather belongs to the state logic, and the notion of a 'consumer' belongs to the market logic. In the community logic, we are referring to persons in their individual roles as family members, neighbours, residents and friends, and to the way in which they informally interact with one another. Many community energy initiatives originate in 'the community', i.e. they start with a group of people that informally get together with a desire and a vision for self-organising (a part of) their energy system. This means that especially in the beginning, most of the time and effort is invested on a voluntary basis. One the one hand, this voluntary basis has a unique strength, that of 'enjoyment' and intrinsic motivation that is independent of formal transactions or material rewards[20]. There are however also weaknesses.

First, there is the naivety that often comes with informal and 'trust-based' spheres of community-development and idealistic discourses on self-governance. Second – and related to that – there is the risk of 'volunteer fatigue', which threatens the continuity of the project. Such volunteer fatigue often coincides with the blurry transition phase between informality and formality. As the initiative develops and grows, it is unavoidable that some forms of formalisation kick in. This requires certain formal activities (e.g. checking existing regulations, applying for formal permissions, administration, bookkeeping, etc.), which are often not the type of activities that volunteers sign up for in the first place. Our most important recommendation to initiators and members of informal community energy initiatives, is to be aware and prepared for such moments of volunteer fatigue and processes of formalisation. Even if formalisation in itself might not be avoidable, there are different degrees of and strategies towards processes of formalisation and professionalisation.

An important strategy in this process of formalisation is to search for information and support from experienced individuals and organisations, either by inquiring with other initiatives who have done it before (i.e. build on existing experience and tacit knowledge), and/or by searching formal organisations (e.g. platforms, networks, government departments, businesses, NGO's) that can in one way or another provide necessary information or services. Too often, the wheel is reinvented

[19] E.g. Paradies, G., Wijn, R. en Attema, R. (2013).
[20] For more on intrinsic motivation and empowerment in: Avelino 2011

unnecessarily. Initiators can make use of the experience available at federations of cooperatives[21], where expertise and (financial) resources are bundled.

While this last recommendation is oriented towards community members, it also requires a shift in attitude towards 'the community' on the side of formal organisations and those representing them. Professionals at formal organisations – both from the state and the market as well as the Third Sector – need to reorient their tendency to develop things (e.g regulations, services and goods) *for* community members, towards developing thing *with* community members and/or support things which are developed *by* the community.

4.6 Third Sector Logic Recommendations

In contrast to the sectors discussed so far, the Third Sector does not have clearly defined boundaries between formal vs. informal, for-profit vs. non-profit, and private versus public. The Third Sector is defined as an intermediary sector between the other sectors, with cross-boundary properties. While we can argue that the Third Sector is mostly non-profit, formal and private, it also involves significant for-profit, informal and public elements. More importantly, the Third Sector includes hybrid forms, such as 'not-for-profit' organisations and 'social enterprises'. In this sense, one could argue that the development of community energy – characterised by blurring boundaries between social, political and legal categories – is mostly a Third Sector phenomenon, an intermediary field between the state, the market and the community.

Existing Third Sector organisations – organised networks, associations, foundations etc. – have a crucial role to play in terms of supporting energy community initiatives by providing information and expertise and/or platforms for sharing experiences. For instance, regarding the issue of (perceived) legal barriers, Third Sector organisations can provide platforms for initiators of community energy to unite, discuss identified issues, and educate each other on possibilities and exchange knowledge. By doing just that, the perception of legal difficulties or constraints might be partly overcome. Moreover, Third Sector organisations are important in addressing the risks of (vulnerable) community energy in relation to long life cycles of infrastructure and hence necessary stability within government structures. Self-organisation structures can be vulnerable, for example to internal conflicts, or for the loss of a champion in case he or she gets sick or dies. Third Sector organisations – if themselves supported by government (see section 4.3) – can provide supporting structures to mediate these effects.

In that same line of argument, Third Sector organisations have a unique position for acting as intermediary brokers between the state, the market and the community in the negotiation of community energy arrangements. Especially vis-à-vis community members, Third Sector organisations often come across as being more independent, therefore receiving more trust than governmental or commercial organisations. On that basis, Third Sector organisations can to a certain extent 'represent' community energy initiatives with lobbying activities[22] to cross the boundaries and

[21] e.g. in the Netherlands: ODE, HIER-opgewekt, E-decentraal, VEC or RESCoopNL
[22] For more recommendations on lobbying activities, see: Bosman et al 2013

obstacles in their way, to create space for them to take-off, and to formulate a strong, consistent message. At least, in theory. In practice, there is still ample room for improvement, especially in terms of Third Sector organisations engaging more with politics and economics (as discussed in section 4.3 and 4.4), and in terms of them working *with* community members rather than working *for* them (see section 4.5).

The Third Sector comprises a large diversity of actors, ranging from researchers, teachers and advisors, to artists, writers, volunteers, professional and informal activists. All of these play an especially important role in education and in (re)shaping 'the public opinion', by sharing information, narratives and images on community energy development. We have several recommendations on what kind of narratives and activities are needed:

- Collecting and sharing histories of energy communities as social innovation stories;
- To reconsider the alienation of consumers to energy production and supply and to find new ways to educate citizens and consumers about energy systems;
- However: instead of (only) focusing on the functional and instrumental matter of energy provision, also tell the story in terms of community development and a renegotiation and reshaping of public places and responsibilities;
- Besides the positive and happy stories, also be critical and honest about the (potential) 'dark side' and the unintended side effects that community energy developments might have in terms of social exclusion (see also section 4.3);
- Question the economic view of what is a 'fair price' for energy. Similarly to fair-trade products, that may cost a bit more than mainstream products, it might be time to introduce a concept of 'fair electricity';
- To move beyond categories of 'bottom-up' versus 'top-down', 'community-led' versus 'business-led' – think of it rather as a network of fields and actors.

The Need for the Third Sector…
"There is no organization that unites the cooperatives … in Flanders we ourselves have founded [the organization] Coopkracht… but it is only after 4-5 years of voluntary work that we are now thinking about employing someone to run this organization. A strong federation as they have in the United Kingdom and Germany, we do not have that here." (Interview with Ecopower, 13th of May 2012, Avelino et al. 2013).

(… but keeping in mind the risk of Third Sector 'overload')
"There is [also] a bewildering amount of [civil society] organizations (…) who approach [us] for meetings, interviews and so on (…) they all want to do something with local energy: it is a hot item the last few years. I cannot cope with it all – and it is amazing how much double work occurs - I often get the same questions from many different people" (confidential interview, Avelino et al. 2013).

5 Conclusion

Over the last decade, community energy has emerged as an intriguing new way of organizing the energy system. With 'community energy' we refer to energy projects "where communities (of place or interest) exhibit a high degree of ownership and control, as well as benefiting collectively from the outcomes"(Walker & Devine-Wright 2008). It is intriguing because it fits very well to discourses on sustainability, as well as to more neo-liberal ideas of self-reliance and independence. Therefore, community energy is increasingly seen as a promising development towards a sustainable energy system. At the same time, its development challenges existing (energy) structures and raises questions about the self-governance of community energy, both by initiators of the initiatives and by others actors involved, from (local) governments, business and Third Sector organisations.

In this practice brief, we identified three overarching challenges as essential for initiating and sustaining a community energy initiative: trust, motivation and continuity. Then we moved on to four dimensions from which challenges to community energy initiatives arise:

1) economic & financial issues
2) (perceived) legal barriers
3) socio-cultural conditions
4) micro-political conflict and struggle

The main question that arises regarding self-governance of community energy across these four dimensions is to what extent a community possesses the necessary abilities and know-how to self-govern the establishment and execution of a community energy initiative, including performance criteria (availability, affordability, and sustainability) and regulations to avoid abuse or freeriding behaviour. Moreover, a main challenge of 'self-organisation' and 'self-governance', is that it is often unclear who exactly the 'self' or the 'other' is. Blurring boundaries between different sectors (market, state, community, the Third Sector) means it is not that clear anymore what is 'bottom-up' or 'top-down', the 'self' or the 'other'. The 'self' in self-organisation ranges from 'self-reliant citizens' and 'self-serving consumers', to 'self-governing municipalities' and 'self-employed social entrepreneurs'. None of these 'selves' fit the prevailing socio-political categories of state and market, hence many public and academic debates essentially revolve around (re)defining the boundaries of community, market and state.

This is why in this practice brief, we introduced a multi-actor perspective to specify the different actors involved in the (self)-governance of community energy. With the multi-actor perspective, we have identified a set of practice recommendations directed towards various actors involved in community energy on how to deal with these challenges. **An overview of these recommendations can be found in table 1 on p. 2 in the opening summary of this practice brief.**

Underlying these specific actor recommendations, we can distinguish three overarching insights when we look at the challenges of the self-governance of community energy from a multi-actor perspective. First, when proclaiming ideals of 'self-governance' and 'self-organisation', it is important to be clear and critical about who the 'self' and the 'other' is supposed to be, and to realise that this

distinction between the self and the other is not that clear cut. Second, a related recommendation is to be aware of the naivety that often comes with informal and 'trust-based' spheres of community-development and idealistic discourses on (self-)governance. New concepts and blurring boundaries are by definition accompanied by contingencies and unexpected tensions. (Self-)governance needs to safeguard that it can cope with such contingencies and to acknowledge the importance of discussing these before starting a community energy initiative and to continue doing so during its development.

Third and last, but certainly not least, the multi-actor perspective serves to remind us that the (self)-governance of community energy involves a variety of sector logics and different types of actors. Organisations and individual actors play different roles in each sector logic. The logic of 'the state', for instance, is not only decided on by policy-makers, but – in the case of a democracy – also shaped by citizens who vote for certain politicians and who abide by laws, or by legal experts and other specialists who advise governments. As such, when we formulate recommendations for 'the state', we do not only target policy-makers that work within government organisations, but also other actors who are involved in shaping and reproducing the logic of the state. The same applies to the logic of the market, the community and the Third Sector. In this practice brief, we have formulated recommendations for each of the four 'sector logics', specifying the roles of different actors within those logics **(see section 4 and/or table 1 on p. 2)**.

By doing so, we have tried to capture within this practice brief, the discussions that we had during our seminar in November 2013. At this seminar, we came together as researchers with different interdisciplinary perspectives on community energy, including: legal studies, psychology, economics, engineering, sociology, policy and political science. All researchers that were present at the seminar conducted empirical research on community energy initiatives and/or other examples of self-organisation. We challenged each other to move beyond the critical analysis of challenges and to formulate constructive recommendations regarding the future of community energy. These recommendations are not only directed at policy makers, but towards other actors that play an important role in the emerging field of community energy, such as citizens, businesses, and intermediaries. We have also directed recommendations at researchers like ourselves, to critically but constructively analyse the developments of community energy, and to translate research insights to foster interdisciplinary and 'transdisciplinary' dialogue between researchers and practitioners on the future of our energy systems and communities.

6 Appendix: Overview of Case studies

Name of Community Energy Initiative(s)	Location	References empirical studies (see list of cited references)
Texel Energy	Texel, The Netherlands	Avelino et al. 2013, Bosman et al. 2013, Frantzeskaki et al. 2013
Ecopower	Antwerp, Belgium	Avelino et al. 2013, Bosman et al. 2013
Schönau EWS (Elektrizitätswerke Schönau)	Schönau, Germany	Bosman et al. 2013, Avelino et al. 2013
Udny Wind and Urgha Wind, Community Energy Scotland	Scotland, United Kingdom	Frantzeskaki etal. 2013
Shared Space	Several towns in NL and other (mostly European) countries	Pel 2009, 2012a,b
Energiegenossenschaft Odenwald eG	Erbach, Germany	Boontje 2013 (P, 2013)
Duurzaam Hoonhors	Hoonhorst, the Netherlands	Attema et al. 2013
Eemstroom Amersfoort	Amersfoort, the Netherlands	Paradies et al. 2013, Attema et al. 2013
Energiecooperatie Coevoorden	Coevoorden, the Netherlands	Attema et al. 2013
Energieke buurt Zeist / Zon op Zeist	Zeist, the Netherlands	Paradies et al. 2013, Attema et al. 2013
Reestdal Energie	Zuidwolde, the Netherlands	Paradies et al. 2013
Ameland Energie Cooperatie	Ameland, the Netherlands	Paradies et al. 2013
Energie cooperatie Noordseveld	Noordseveld, the Netherlands	Attema et al. 2013

7 Information about Authors

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DRIFT (Dutch Research Institute for Transitions, Erasmus Universiteit Rotterdam) is the leading research institute regarding sustainability transitions. DRIFT combines cutting edge research at the intersection of theory and practice with high-level consultancy, training and education for governments, businesses and intermediaries. *Transitions*, structural systemic change as the result of complex interactions in multiple domains and at different levels of society, take centre stage in the work of DRIFT. After its founding in 2004, DRIFT developed into a renown and internationally oriented institute pioneering sustainability projects in the Netherlands and abroad.

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