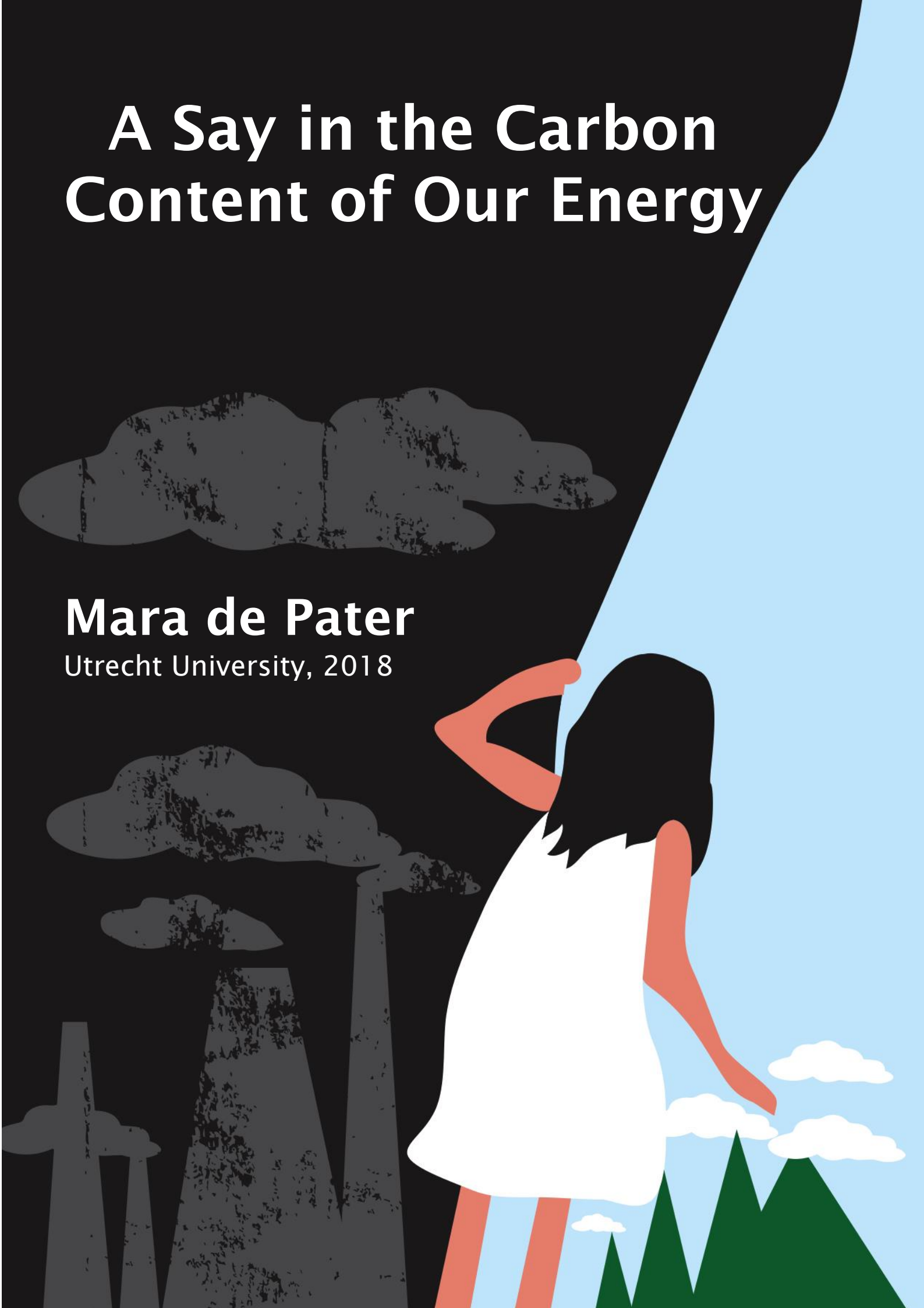# A Say in the Carbon Content of Our Energy

Mara de Pater

Utrecht University, 2018

A Say in the Carbon Content of Our Energy

From a quote of one of the research participants: "Have a vote, a say in the carbon content of our energy"[1]

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[1] Bob, Focus Group 2, April 2018

GIRL: What would happen if the company wouldn't give us any electricity?

FATHER: We'd be in a hell of a fix.

GIRL: Then why doesn't the Government give us electricity?

FATHER: Because it would be competing with private business, and besides, everybody knows that the Government wouldn't be run efficiently.

GIRL: (Pauses, apparently thinking): Daddy, who runs the Post Office?

FATHER: The Government runs the Post Office.

GIRL: Why does the Government run the Post Office?

FATHER: Because it's too important to us to permit anybody else to run it.

GIRL: Well, Daddy, don't you think electricity is important? You said we'd be in a hell of a fix if the company quit giving it to us.

FATHER: Watch your language, young lady!

GIRL: It was what you said, Daddy.

FATHER: The Post Office and electric lights are different.

GIRL: Daddy, who is the Government?

FATHER: The Government is you and me, I guess – the people.

GIRL: Do all the people need electricity?

FATHER: Yes.

GIRL: And does the company own what all the people need?

FATHER: That's right!

GIRL: Gee, Daddy; the people are awfully dumb

A scene from *Power* which was presented at WPA Theaters in 1937

Retrieved from Haimbaugh 1966, 221.

Abstract

By combining theoretical concepts and ethnographic fieldwork, this research gives insight to a local effort to decarbonize and democratize energy systems by means of municipalization. The city of Boulder (Colorado) in the US is provided with electricity by regulated-monopoly company Xcel Energy. Due to the nature of regulated monopolies and the business management of Xcel Energy in particular, Boulder found itself not able to reach their commitments in terms of renewable energy. I look at this problem using the concept 'energopower', which helps analyze the role of energy systems in configuring power; in this case to be mostly in hands of Xcel Energy and the state government. This power dynamic is perceived as an impossibility for the group in Boulder; therefore the concept 'cramped space' is helpful to understand how impossibilities fuel creation and contestation, which in this case is the attempted creation of a municipal utility and all imaginaries that come with the attempt. This attempt is carried out by a broad group of people that can be seen as heterogeneous, relational, productive and dynamic in their organization and boundaries. Therefore, the group can best be understood using the concept 'assemblages'. This concept helps the group to be understood as dynamic by attracting different people with various insights and opening up for allies, political space and public debate and as productive, by its contestation and creation.

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Introduction

Current dominant energy systems are considered unsustainable and undemocratic (Mitchell 2009; Smith-Nonini 2016; Morris and Jungjohann 2016; Toke 2011; Jenkins et al. 2016; Becker and Naumann 2017). Technological solutions to these unsustainable forms of energy production are being developed in different fields, resulting in different types of renewable energy technology (Akella, Saini, and Sharma 2009). While renewable energy production is more sustainable, it does not necessarily mean that it is a more democratic form of production (Morris and Jungjohann 2016).

A solution to democratize energy systems, proposed in various cities and regions around the world, is to deprivatize energy into local public management. This is called energy (re)municipalization and can be defined as the creation of a municipal utility to shift management of energy generation and distribution from private management to local public control and operation (Morris and Jungjohann 2016; Becker and Kunze 2014; Becker, Blanchet, and Kunze 2016; Moss, Becker, and Naumann 2015; Davis 2017). Municipalization is seen as one of the paths towards energy democracy, which I understand considering Becker and Naumann's (2017, 4) definition of energy democracy which holds: "first, we refer to democratization as a political call to open up energy systems to participation. Second, we engage with concurring efforts to institutionalize democratic principles in lasting organizations". As mentioned above, several cities have explored municipalization, have municipalized (e.g. Hamburg) have attempted to but failed (e.g. Berlin) and others are in the process of municipalizing. This research focusses on Boulder (Colorado), US, which is a city in the process of municipalizing.

The city of Boulder seems to have everything needed for a progressive and sustainable city. It houses several climate and sustainability research instituters (e.g. National Center for Atmospheric Research and University of Colorado research departments), and 292 clean tech businesses[2]Boulder is in the top three of cities in the US with the highest number of PhDs per capita[3]. In 2006 Boulder was the first city in the US to implement a carbon tax voted on by citizens (Brouillard and Pelt 2007). Moreover, the city has 100% renewable energy by 2030 as goal[4]. Yet, the city is struggling to make the transition it aims for in its energy production. The electricity provider, Xcel Energy has been unwilling to cooperate with the city of Boulder to accomplish its renewable energy goals. Therefore, a broad group of people has been exploring the option of municipalization to have more control over the energy resources. This exploration and an ongoing attempt to create a municipal utility is referred to as a municipalization effort. The municipalization effort is a socio-political contestation process of

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[2] Boulder Economic Council 2018
[3] Forbes 2018
[4] City of Boulder 2018b

nearly a decade; it includes feasibility studies, raising public support, and litigations and negotiations with Xcel Energy and the state legislature. The effort is carried out by a broad group of people, including citizens and citizen groups forming a social movement, and officials of the municipality of Boulder.

Despite the fact that anthropologists have a tradition of studying energy, energy resources, and more recently energy politics, hardly any publications can be found by anthropologists on municipalization (Boyer 2014). Most research on municipalization of energy has been done in the fields of human geography and environmental policy. While studies provided by these disciplines give key insights of the socio-political contestation processes (e.g. Angel 2017; Becker, Naumann, and Moss 2017; Becker, Beveridge, and Naumann 2014), ethnographic studies have the potential to enrich the academic debate on municipalization by providing a thick description and a deep understanding of specific cases and the broader context in which the efforts take place (Edelman 2001; Gledhill 2000). This research aims at enriching the academic debate on energy democracy in general but focusses on two issues specifically. First, to deepen the understanding of motivations to municipalize in relation to the context and the network present. Second, to understand the complex network of people engaged in the municipalization effort. An ethnographic study of these complex networks has not been done, despite the fact that previous studies of municipalization acknowledge the plurality of actors involved and the complexity of relations between those actors (e.g. Angel 2017; Becker, Naumann, and Moss 2017; Becker, Beveridge, and Naumann 2014). Thus, I will provide an ethnographic study of the case in Boulder while using the following two concepts as foundation for the analysis.

First, to gain an understanding of the network and the relations in this broad group of people I use the concept 'assemblages', and to understand the drivers to contest the current system I decided to use the concept 'energopower'. The concept, 'assemblages', has its roots in philosophy and is widely used in other disciplines (e.g. human geography). The concept is, however, used and advanced by many anthropologists. The concept of assemblages provides an ontological basis to unravel the relations and dynamics among the people in Boulder. Assemblages are complex networks of entities and relations between them that can best be understood as emerging, historically produced, and in relation to a broader context (Müller 2015; Deleuze 1995). Using this ontological framework and viewing the relations of people in Boulder as an assemblage will help understand the plurality and complexity of relations that can be found in Boulder while embracing its complex nature. Throughout this research I refer to the people involved in the municipalization effort as 'the assemblage'. One of the characteristics of assemblages is that assemblages are productive. This characteristic is especially prominent on those assemblages or parts of assemblages that form a 'cramped space'. Cramped space is a concept within assemblages. It explains that actors that cannot identify with the dominant governance, experience the impossibilities of governance and if in an assemblage, this situation creates a cramped space which fuels contestation and creation (Wezemael 2008; Walters and Lüthi

2016; Thoburn 2016; Deleuze 1995). Five characteristics of assemblages will be elaborated on in the second chapter, and the concept of cramped spaces will be further elaborated in the third, as it helps understand the ethnographic findings in relation to both the first and the second concept.

The second concept is a rather new concept 'energopower' (Boyer 2011; Boyer 2014). Energopower is a conceptual lens that helps and structures the studying of power dynamics in relation to intertwinement of energy with society, the impact of energy production on the environment, and the prominent role of established energy systems in the configuration of power. In the case of Boulder, it helps to understand the perceived power dynamics within the assemblage and how it aims at challenging these, while striving toward energy democracy. The two concepts, assemblages and energopower, complement each other; the first concept mostly aids an understanding of the relations and dynamics of the people involved. The second concept helps to understand the assemblage in relation to the context and the assemblage's beliefs and motivations. This research aims at enriching the academic debate on municipalization in relation to energy democracy, assemblages and energopower by answering the following research question:

How are understandings of energy democracy produced and activities shaped within the assemblage that is striving for municipalization in Boulder?

1.   Research methods

The research question demands a number of different focuses. Firstly, to gain an understanding of the assemblage through the relations and dynamics present. Secondly, to map the activities of the assemblage to understand how they act on energy democracy. Thirdly, to explore the motivations and imaginaries among the research participants in order to understand municipalization as a means to reach energy democratization. Fourthly, to relate these motivations and imaginaries to the current energy system and perceptions of this system. The theoretical concepts and methods used, and the boundaries set that support these focuses are elaborated in the next two paragraphs.

In order to answer the research question, I did ethnographic research of the assemblage. The research included three months fieldwork in Boulder from February 2018 until May 2018. During the two months preparation and literature research I contacted two organizations and several people involved in the municipalization effort, whom I found online. These people invited me to conduct my research with them, provided information and helped me with practical matters (e.g. housing and transportation). The fieldwork itself included three main research methods – participatory observation, interviews, and literature research – all based on the principle of Participatory Action Research (PAR). PAR aims at breaking with an existing hierarchy between researchers and participants, which shaped the different methods used. Through dialogue and increasing knowledge for both the researcher and the participants, a more equal relationship is built (Hale 2008; Kemmis,

McTaggart, and Nixon 2013). In this case it meant that I reflected on the research design with several research participants and adapted it by critically reviewing their insights. I reflected on preliminary findings with most participants and conducted exercises (e.g. storytelling, mapping, brainstorming) to actively engage research participants in reflecting on the context and their goals and activities. The latter was mostly done in interviews, especially focus groups and during the discussion that followed a presentation I gave on my preliminary findings. Despite the fact that PAR was most prominent in the focus groups and the presentation, it shaped cooperation between me and the participants, even for literature research as we provided each other with information. Moreover, to gain an understanding of the assemblage in relation to the context I decided to base the scope of research on Nader's (1972) 'studying up' and the more recent idea of 'studying through'. With 'studying up' Nader calls for a need to study powerful institutions to counterbalance studying the marginalized, which I did by studying Xcel Energy and the state legislature. 'Studying through' emphasizes the need to expanding the scope of study in terms of material, research participants, and methods. This can particularly contribute to understand the plurality of relations in an assemblage (Mccann and Ward 2012). The expansion of the scope of research is reflected in my choices of who to interview – elected officials and regulatory bodies on a state level and experts in the field of energy governance besides those people directly involved in the municipalization effort – and in the variety of grey literature sources I included, such as policy documents and legal documentations.

Both PAR and the ideas of 'studying up' and 'studying through' shaped decisions about the following three main research methods. Firstly, participatory observation in meetings and social gatherings. The meetings were organized by activist groups (e.g. a board meeting of non-profit organization Clean Energy Action) and by the city of Boulder (e.g. City Council meetings or Working Group meetings with volunteers).

Secondly, I did 39 interviews with 36 different participants. Some of the participants were interviewed multiple times others were interviewed in pairs. The 39 interviews were scheduled in advance and were semi-structured. I based the decisions of who to interview on information other participants provided me with. To set boundaries in the scope of my research I chose to interview those people that were most actively engaged in the municipalization effort or had been very active in the past. These people could provide me with most insights and experiences. Additionally, I made sure I interviewed a varied group of people in terms of background and role in the municipalization effort. Furthermore, I organized three focus groups in my own house; each focus group session had two to three participants. We used different methods to enhance brainstorming and storytelling, these methods are explained in the appendix. Moreover, I had a number of spontaneous chats with participants (e.g. during a hike or during the coffee break of a meeting). Whereas most scheduled interviews were recorded and transcribed, this was not possible with the spontaneous chats. Most information from the chats is captured in notes and a personal diary. Besides the people active in Boulder, I included three state-wide governmental bodies that are linked to the energy system. I tried

to include the perspective of utility company Xcel Energy as well. Despite various attempts, the only contact I had was a phone call that clarified that they did not want to be involved in my research[5]. Therefore, Xcel Energy's perspectives are based on public documentation and on the perspectives of other research participants.

Lastly, I did literature research in preparation for the fieldwork, as mentioned above, during the fieldwork and while writing this thesis. I included academic literature from different disciplines, such as environmental policy, human geography, sociology, and anthropology. In addition, I used grey literature, for example newspaper articles, policy documents, and publications on social media. The literature research during the fieldwork mainly helped to give additional information and to put the participants' material into perspective as part of data triangulation. My goal was to combine the three different methods to reflect on the data and to present the findings in this thesis based on triangulated data. Moreover, I aimed to reflect on the data using the different perspectives participants had on similar topics. Therefore, I will present a balanced argument in which a distinction is made between perception and general statements.

2.   Reading guide

The research is presented in three chapters. In the first chapter I use energopower to build an understanding of the context in which Boulder's municipalization effort takes place and I will outline the history of the municipalization effort. The second chapter provides an explanation of the complexity of the network of people working on the municipalization effort in Boulder using the concept assemblages and its various characteristics. The third chapter focusses on the understandings of energy democracy within the assemblage by providing an explanation of the motivations to change the energy system and imagined energy futures. In this chapter I use both energopower and the concept cramped space for the analysis. In the reflection I provide a conclusion and discussion on the research and the different findings.

For analytical purposes a distinction is made between different groups in the assemblage, which is further explained in chapter 2. It is, however, helpful to note that throughout the chapters 'the social movement' refers to a group of people that engages in the municipalization effort as volunteers, the term social movement is further explained in 2.3 in chapter 2. 'The city' refers to the municipal government of the City of Boulder, which includes elected officials (city council) and city staff. 'The alliance' refers to the alliance formed between the social movement and the city. 'The assemblage' refers to the alliance and a broad group of people affiliated with the municipalization effort. Moreover, several abbreviations are used. A list of these abbreviations can be found in Appendix 2. As well as a list of research participants introduced in the different chapters.

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[5] Phone call with Jerome Davis, Regional Vice President of Xcel Energy, April 2018

<div align="center">CHAPTER 1</div>

"A one-billion-dollar block of concrete"

<div align="center">The history and contestation of the energy system in Colorado</div>

1.1 Introduction

"The US wouldn't be the richest, most influential, most powerful nation on earth if it weren't for ample amounts of fossil fuels. If we didn't have that we wouldn't have been able to do many of the things we've done as a nation. But we need to move on. We should have moved on fifty years ago. We've known the problem of carbon for a long time. We don't want a small number of people almost totally in control of this very important thing called energy. If that continues, the inequity of the last 100 years is going to continue. That inequity is causing massive problems for humanity"[6].

Rebecca explained this view on the energy system to me while we were having tea at the university campus, where she works as a teacher in writing. She spends most of her spare time as a volunteer for environmental organizations, working on the municipalization effort among other things. The municipalization effort is a sociopolitical contestation process consisting of different activities, which includes raising public support. Rebecca mentions a variety of aspects the energy system is intertwined with. First, she explains that fossil fuels, as a resource for energy generation, have brought wealth and power to the US. Second, she mentions the carbon that has been emitted by energy production and refers to carbon as being problematic. Third, energy is seen by her as very important to society and last, she mentions a power configuration of a small group of people being in power, which causes inequality. Her view on the energy system shows many similarities to the ways the concept energopower structures analyses of energy systems. In this chapter I will start by explaining the concept energopower and then apply it to the energy system in Colorado. I will do so by looking at the historical processes that shaped the energy system to be embedded in society, to be a regulated monopoly that has a role in power configuration, and to be part of a global fossil fuel-based energy system. An understanding of the energy system is necessary to clarify why the current energy system is perceived as problematic and how this perception shaped beliefs and motivations of people in the assemblage. Moreover, an understanding of the system aids an understanding of the assemblage because, assemblages are historically produced and context dependent. Therefore, this chapter provided necessary background information for the analyses in the following chapters. In the current chapter I will start by introducing the concept energopower. Next I provide an overview of the

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[6] Interview Rebecca (Chair of the Local Chapter of the Sierra Club), March 2018

establishment of the current system to show the embeddedness of the system throughout society and governance. This is followed by a more detailed explanation of the energy system in Colorado, mainly in terms of management and regulation. This section aims at showing the different perceived problems related to the energy system. In the last section I will introduce Boulder and the municipalization history in Boulder.

1.2   Energopower

Boyer's (2011) concept energopower can be understood as the conceptualization of recent developments of anthropological research in relation to energy while incorporating the rich history of energy-related anthropological research, most importantly the following three aspects: intertwinement of energy with society, the impact of energy production on the environment, and the prominent role of established energy systems in the configuration of power.

Boyer (2014) captures findings of earlier anthropological research in these three aspects. Therefore, I give an overview of the trends of studying energy in anthropology here. Firstly, research on energy has traditionally focused on the role of energy in daily lives and the effects of introducing energy in (indigenous) communities (Nordstrom et al. 1977; Robbins 1984; Kruse, Kleinfeld, and Travis 1982; Jorgensen 1990). Energopower acknowledges that energy has a prominent role in social reproduction, including daily lives, economies, and governance (Boyer 2014). Secondly, the debate on energy shifted towards debates still prominent in anthropology on environmental damage (e.g. climate change and resource extraction) in relation to (local) communities (Boyer 2014; Barker 1997; Love and Garwood 2011; Powell and Long 2010; Sawyer 2004; Sawyer and Gomez 2012) Lastly, research started to look at energy systems as locked-in regimes. Nader (1980) was one of the first to research energy transitions and energy policies and found a lock-in in existing energy systems due to deeply rooted paradigms among experts (Boyer 2014). Recent publications have focused on similar lock-in phenomena in a broader context. For example, in Carbon Democracy, Mitchell (2009; 2011), explains how energy resources have shaped politics and economies globally throughout history.

Building on these trends, Boyer (2014, 325) defines energopower as follows: "a genealogy of modern power that rethinks political power through the twin analytics of electricity and fuel". I use the concept to perceive how energy systems structure political power, while using the three aspects mentioned above. He emphasizes that energopower can best be seen as a conceptual lens to understand power dynamics. However, Boyer (2014) notes that it cannot "pretend to model the absolute truth of power because whose truth would that be? As anthropologists, for better or for worse, the profound multiplicity of human languages, knowledges, institutions, and experiences remains the muse and medium of our intellectual practice". In my research the understanding of the power dynamics within the energy system is based on a variety of perceptions and experiences of these dynamics.

1.3   Establishment of the regulated monopoly

In the introduction I mentioned that electricity in Boulder is provided by Xcel Energy. Xcel Energy is a so-called regulated monopoly. It is an investor owned utility, a private company with a monopoly over its service area and is regulated by different regulatory bodies in the eight states it provides electricity for. In this subchapter I will provided an overview of the establishment of the regulated-monopoly system in relation to the three aspects of energopower and an understanding of how this system became a locked-in regime. The prominent role of the energy system in the configuration of power can be best explained using the history of the establishment of the energy system, which I will do in the following paragraphs. Additionally, this history shows how energy became more and more intertwined with daily live and that the regulated monopoly is interlinked fossil fuels. Although I will not go into the details, the linkage with fossil fuels is throughout this research perceived as problematic because of the large contribution it has to the global greenhouse gas emission that causes the climate to change.

The establishment of the energy system has its roots with Thomas Edison, who was the first to design and build a small electricity grid in New York City in 1882 (Bakke 2016; Munson 2005; Asmus 2010). In the two decades that followed, most power was produced by small private power plants, the electricity grid was decentralized and there were several wires running through the same area owned by a variety of companies using different currents and voltages (Bakke 2016; Klein 2010). By the time Edison retired, his assistant Samuel Insull, had a clear vision of what a more efficient electricity grid would be: a monopoly. In 1892 Insull decided to run Chicago Edison, a franchise company of Edison and minority player in the energy field of Chicago. In the 1890s electricity was perceived as a good solely for the elite. Nevertheless, Insull increased the usage of electricity from 0,005% of the inhabitants to approximately 10% in 20 years (Bakke 2016; Klein 2010). The growth of electricity users and amount of electricity used shows that electricity became intertwined with society, which I named as the first aspect of energopower. Furthermore, Insull succeeded in monopolizing the electricity market of Chicago using different strategies, for example buying all other providers and producers; set fixed and ever decreasing rates; make deals with industrial businesses; increasing efficiency and size of power plants (Bakke 2016; Munson 2005).

Across the US electricity providers learned about Insull's successfully implemented business model. By applying similar strategies, ten holding companies were in control of 75% of the electricity industry by the end of the 1920s. Bakke (2016, 60–61) describes these years as following: "this was an extraordinarily rapid transition from chaos and competition to a single service provider. Remarkably disparate interests including advocates of municipal power networks, of public power projects and even electricity cooperatives, were all convinced by the 1920s that the monopoly was the best way to manage the manufacture and sale of electric power". It could be said that this monopoly system was a paradigm at the time. The establishment of this largely monopolized system relates to

the third aspect of energopower, the prominent role of energy systems in the configuration of power. The ten holding companies shaped how energy was generated, distributed, and managed.

The biggest threats to this monopoly structure were antitrust laws – federal laws that ensure open-market economies with fair competition – that had already broken up monopoly company Standard Oil and U.S. Steel. Insull therefore anticipated a need to ally with the government. Given the existing paradigm and the progressive politics of the 1910s – aimed at systemized good government – a successful alliance was built (Bakke 2016), with an agreement as a result: the electricity utilities would be guaranteed a service area without competing utilities and were strictly regulated by the state government (Priest 1993; Bakke 2016). As all companies were guaranteed a different service area, this meant that even though there were multiple companies, they had the monopoly over a territory and customers in that area. Due to this arrangement, utilities were guaranteed a return on investments; a 6 to 9% profit over all investments made (DiLorenzo 1996). The agreement between the government and monopoly utilities had a role in the configuration of power. The agreement limited influence of customers on the energy system and shifted decision-making power towards the alliance of the state government and monopoly utility.

It is important to view this alliance in a broader field of power dynamics shaped through energy. In his book Carbon Democracy, Mitchell (2011) describes how energy resources have shaped international political power dynamics. To put it simply, he says that due to more industrialized processes in resource extraction and energy less people are able to influence the energy system than in times of manual coal mining and railroad transportation (Mitchell 2011; Mitchell 2009). Additionally, resources and economic growth are interlinked. The increase of oil in energy generation brought economic growth, which made it interesting for governments to meddle in the energy market. Especially in the US, the government actively protected US oil companies against foreign companies in the Middle East. Whereas oil already largely influenced the economy, these measures fueled inequality in the global economy (Mitchell 2011). Complex structures of subsidies for the coal and oil industry are still in place in the US (Victor 2009). This leads to unfair competition in terms of energy resources. (Koplow and Dernbach 2001; Victor 2009). Moreover, electricity generation from fossil fuels is most cost efficient if power plants are of large scale. High investments are needed to build these power plants, something only the larger utilities or energy companies could do (Bakke 2016). This in addition to the small workforce made sure that a small group of people was in power. Furthermore, by only allowing a small group of people to be of large influence in the decision making ensured that energy generation remained dominated by fossil fuels, which would keep this small group in power. Renewable energy generation could have a variety of owners (e.g. smaller businesses and homeowners) which would spread economic and political power (Bakke 2016; Morris and Jungjohann 2016).

Amongst this small group of powerful people there were the monopoly utilities. To maintain their monopoly, they trusted in two certainties. First, there was no expected limit to the increase of

energy use in the US and energy usage would not be limited by the amount that could be produced. Second, prices of energy would only go down. These two "certainties" appeared to be uncertain in 1969 and the years following. Firstly, power plants fueled by coal, oil and natural gas reached their maximum level of efficiency. Secondly, the oil crises in the 1970's increased the demand and price of resources. Thirdly, in the 1970s environmental movements started questioning the impacts of energy production. Utilities had to comply with environmental standards established through the Environmental Protection Agency (Bakke 2016). In addition, awareness and higher prices caused consumers to conserve or use energy more efficiently, which stabilized energy demands[7]. Since the 1970s the paradigm on monopoly utilities has been deteriorating slowly (Priest 1993). Despite awareness and increased public engagement in energy related issues (e.g. social contestation and environmental standards), most states in the US still have a regulated-monopoly system in place. Eighteen states did break away from the locked-in regime and opened up possibilities for open market competition or publicly provided electricity (EnergyWatch 2018). Colorado is not one of those eighteen states and has a regulated-monopoly system in place that originates from the 1910s (Priest, 1993).

1.4   Colorado's energy system

In the following section I will present what the governance of this energy system looks like in Colorado. Based on three characteristics – the limited influence customers have on the course of the energy system, the guaranteed return on investment which allows utilities to make risky investments, and the limited amount of renewable energy the utility generates – I will show why the locked-in system is perceived as problematic in the assemblage.

Xcel Energy is the regulated-monopoly company that provides Boulder with electricity. The company serves throughout Colorado and in seven other states. Not all Coloradans are served by Xcel Energy. 59% of the population is served by Xcel Energy, 4% by a smaller investor owned utility and 37% by municipal utilities and co-ops. Most of the municipal utilities and co-ops were established in the 1910s and 1920s, before or at the time the regulated utilities were established. Xcel Energy, the biggest utility of Colorado is an investor-owned utility and is regulated by the Public Utilities Commission (PUC) in Colorado (Xcel Energy 2018b). The PUC is the institutionalized form of the agreement made in the 1910s (Priest 1993). The PUC, being the regulatory body of the state government, regulates all activities of Xcel Energy (e.g. rate setting, investments, electricity resource plans), to serve "the public interest by balancing the needs of customers and utility service providers" (PUC 2018). To do so, the PUC holds cases, largely similar to court cases, to decide on Xcel Energy's plans or activities. In these PUC cases actors (e.g. cities, NGOs and companies) can participate by

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[7] Interview Ron Davis (Chief Advisor of the Public Utilities Commission) April 2018

filing comments or by intervening at public hearings. The PUC weighs the different filed interests to make a decision[8]. Moreover, the state legislature makes policy that Xcel Energy has to comply wit. This means that to have an influence on the energy system actors can either participate in PUC cases or aim for changes in state legislation. The city of Boulder is one of the only cities in the state of Colorado that regularly participates in PUC cases, and they have participated for years. They participate in several cases particularly on environmental issues as part of their attempt to cooperate with the PUC and Xcel Energy to reach their renewable energy goals. Besides city officials, citizens and businesses in Boulder have participated in PUC cases. Nevertheless, participating in PUC cases is described as difficult. Either because attorneys specialized in PUC cases are costly or individually participating demands a lot of time to become specialized in the procedures. The other method to influence the energy system, changing the state law through lobbying or elections, is also described as a complicated and intensive process. The latter has been done in 2004. A movement of citizens across the state of Colorado, including several that also engage in the municipalization effort in Boulder, demanded that the utilities increase the generation of renewable energy to a minimum percentage. They did so through a voter-approved requirement on renewable energy. This so-called renewable portfolio standard was the first voter-approved renewable energy requirement in the country. The renewable portfolio standard requires a minimum amount of 30% renewable energy sold by utilities in Colorado (EIA 2017).

Most of these renewables are provided by wind energy. Wind energy is expected to grow further, as is solar energy. This is based on the bids that Xcel Energy got from renewable energy companies for their newest resource plan and Xcel Energy's proposed electricity resource plan, in which they propose 55% renewable energy by 2026 (Xcel Energy 2018a). Despite Xcel Energy's proposal, the people engaged in the municipalization effort remain skeptical of this proposal. Many do not belief that Xcel Energy will follow through with the implementation of this non-binding commitment. This skepticism is partially based on the failed attempts to partner and for a general mistrust in the regulated-monopoly system. Additionally, a commitment of 55% renewable energy by 2026 is not ambitious enough for them. Nevertheless, 55% renewable energy in 2026 is relatively ambitious compared to other regulated monopolies in the country (Ceres 2016).

Another reason for the municipalization proponents not to trust Xcel Energy in carrying out their commitment is the so-called 'a one-billion-dollar block of concrete' business model. Due to the fact that a regulated monopoly has a guaranteed rate of return on their investment they might, according to critiques, invest in a one-billion-dollar block of concrete. The reason Xcel Energy plans to invest in renewable energy is, in their opinion, mainly because they saw a business opportunity they can defend towards the PUC and can make profit on for their shareholders. Besides, the 'one-

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[8] Interview Ron Davis (Chief Advisor of the Public Utilities Commission) April 2018

billion-dollar block of concrete' business model refers to the cumbrous character of the company and the large amounts of money the company invests and receives.

This subchapter provided an understanding of problems related to the regulated-monopoly system. A deeper understanding of how these problems shape motivations to change that system, in this case through municipalization, will be given in chapter 3 because understanding the motivations requires insight into the assemblage, which is the focus of chapter 2.

1.5   "The Peoples Republic of Boulder"[9]

The concept energopower, used to structure the previous two sections, seems to fixate on power dynamics as subject to dominant energy systems, but the concept does allow for an interest in changes in the system and activities that respond to problematic issues related to the energy system (e.g. climate change or decreased democratic qualities) (Boyer 2014). The municipalization effort in Boulder can be seen as such an interest in change. In this subchapter I will introduce how the municipalization effort in Boulder relates to Boulder's commitment to decarbonization and outline the history of the municipalization effort.

1.5.1   "Twenty-Five Square Miles Surrounded by Reality"[10]

In section 1.4 I explained that citizens and the city started to explore municipalization after they realized it would not be possible to reach their renewable energy goals by cooperating with Xcel Energy. To understand why Boulder has such a strong commitment to increasing the amount of renewable energy I present an image of Boulder's characteristics as they are perceived both in and out of Boulder. The image I present in the following paragraphs is rather generalized. I am aware that presenting a generalized image of a city can be tricky and that there are other perceptions of Boulder. Yet, the image I present is the most dominant image present in media and in the information provided by research participants both in- and outside of Boulder.

Among Boulder's slightly over 100.000 inhabitants there is a large amount of highly educated people and high level of public participation in political processes. There are many differences between Boulder and other parts of the state of Colorado in terms of sociocultural and socioeconomic dynamics. This is reflected in, for example, higher average incomes and more progressive political orientations. This difference is also perceived as dominantly present by the public. In 2014 the New York Times gave an exaggeration of these differences, which holds:

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[9] New York Times 2008
[10] New York Times 2008

"To the east lies Weld County, a conservative stronghold where 20,000 oil and gas wells pump day and night, and Republicans are so dominant that they are running unchallenged for county assessor, clerk and a commissioner's seat. Fifteen miles to the west is Boulder, where a Buddhist-inspired university offers classes in yoga and the Tibetan language, and nature activists are working to carve out legal rights for ecosystems and wild species" (New York Times 2014).

Many of the perceived characteristics are clearly visible. Unlike residents of many cities in the US a large number of people in Boulder travel around by public transport or bike, myself included. Cycling on the well-paved and generally safe cycling paths I could see the many wealthy neighborhoods, organic stores and the farmers markets, and the open spaces and mountain parks that are highly valued and maintained. On the cycling paths and the trails on the open space leading up to the east slopes of the Rocky Mountains, it is always crowded with the many athletic residents. People in Boulder feel a strong connection to the natural surroundings. They often speak about the need to preserve the environment in relation to climate change.

Climate change awareness and environmentalism are clearly embedded in the daily lives of Boulder's citizens, but also in local politics. There are many examples in which Boulder has ambitious goals in relation to protecting the environment. Some examples are the goal of 85% waste reuse and recycling by 2025 and 80 percent reduction of greenhouse gas emission by 2050 relative to the emission levels of 2005[11]. In its actions or measures the city is often seen as a front runner. An example is the carbon tax I mentioned in the introduction; Boulder was the first city in the US to implement a carbon tax that was approved through an election. Moreover, the city filed a lawsuit against Suncor and Exxon Mobile[12] in April 2018. It is the first interior (non-coastal) city to sue fossil fuel companies for damages related to climate change. (City of Boulder 2018c)

Decarbonization is an important part of the city's goals of being sustainable. The city aimed at reducing its carbon emissions by reducing energy generation from fossil fuels, such as natural gas and coal, and increasing renewable energy generation. Because Boulder's electricity is provided by Xcel Energy, Boulder cooperates with Xcel Energy to make changes in the energy generation. In 2009 the city of Boulder negotiated with Xcel Energy to capture measures to support Boulder's decarbonization goals in its next Franchise Agreement. Every twenty years Xcel Energy negotiates Franchise Agreements with the cities it is serving. The agreement between Xcel Energy and Boulder expired in 2010. During the negotiation process Xcel Energy was unwilling to include any of the proposed decarbonization measures. Several citizens and citizen groups showed their concern both about the lack of decarbonization measures and the length of the agreement, a twenty-year agreement would not match the current energy transition. The city council shared these concerns and decided not to sign the agreement Xcel Energy proposed. The decision not to sign the agreement marks the start of

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[11] City of Boulder 2018c
[12] City of Boulder 2018d

the municipalization effort focused on in this research. Also, in 2012 the city and Xcel Energy negotiated on decarbonization measures through a partnership task force. The group consisted of Xcel Energy executives, city staff, experts and selected citizens and business representatives of Boulder. Soon after re-opening the conversation it became clear that Xcel Energy had other ideas of a partnership than the city. Xcel Energy was not open to making any changes in running their business. Both parties turned down each other's final offer. These failed partnership attempts fueled the motivation to municipalize throughout the assemblage.

1.5.2   An overview of the municipalization effort

In the introduction I defined the municipalization effort to be a socio-political process including feasibility studies, raising public support and litigations and negotiations with Xcel Energy and the state legislature – the PUC specifically. Here I provide an overview of the history and the different activities that constitute the municipalization effort, which aids an understanding of the following chapters by providing background information.

The decision not to sign a Franchise Agreement with Xcel Energy in 2009 did not change the energy provision but was of symbolic value. Without a Franchise agreement Xcel Energy would still be required under state legislation to provide the city of Boulder with electricity. However, without a Franchise Agreement the city would not receive funding from Xcel Energy, which they previously did receive. This funding was part of the rate customers of Boulder paid to Xcel Energy, which Xcel Energy then paid to the city. In 2010 the citizens of Boulder voted to replace this funding with a City Occupation Tax, a similar amount but then directly paid to the city. The elections on the City Occupation Tax in 2010 were the first in a series of elections that structured the history of the municipalization effort.

A broad group of people started working on exploring municipalization from 2010 onwards. A network of volunteers, which I will approach as a social movement in chapter 2, organized itself in subgroups looking into specific subjects related to municipalization (e.g. electric resource modeling, cost modeling, communication and campaigning). Likewise, the city council and staff looked into the potential to municipalize and proposed two ballot measures to fund and allow for a feasibility study in 2011. Since 2011 there have been three additional elections in which one or more ballot measures were passed to extend the cities mandate to explore municipalization. For each of these elections the city of Boulder had a task in educating the public. However, most of the public outreach efforts during elections were done by the network of volunteers that I mentioned previously. The outreach was done through a variety of campaigning methods (e.g. door-to-door campaigning, op-eds in the local newspaper). Despite the fact that Xcel Energy spent approximately ten times more money on campaigning against the continuation of the municipalization effort all ballots to be able to continue passed. The public support is vital to continue the municipalization effort; elections with a negative

result towards extension of funding or the mandate will end the process. Until the time of research, ballot measures to continue the municipalization effort passed with a very small majority and both the city and social movement fear that another election might stop the city from municipalizing.

Through these elections the city of Boulder had a mandate from the voters to explore municipalization. Therefore, seven working groups were established in 2011 and 2012 that consisted of hired industry consultants and nearly 200 volunteers. These working groups worked on modeling power resources, on safety, reliability, finances, and communication and outreach. Additionally, Heather Bailey was hired as Executive Director of Energy Strategy and Electric Utility Development for the city of Boulder to coordinate the effort.

The results of the exploration done by the city staff employees, working groups and experts were that it was feasible to create a municipal utility. As a result, the city went into a litigation process with Xcel Energy and the PUC. Due to the judicial nature of the processes in these years the city could not share much information with the citizens in 2016 and 2017. This affected the public debate; fewer citizens were informed on the process, public participation decreased and support of the municipalization effort seemed to be lower. Research participants expressed that the city was simultaneously experiencing a decrease in trust from the citizens in the city. In 2017 two more ballot measures were proposed, the election outcome indicated that citizens wanted to have more public control over the process. It was voted that the city council could no longer have executive sessions, so their meetings should be public and information publicly available. In addition, it was voted that the voters will have the ability to approve or disapprove of creating a municipal utility through a vote. This election will be held once the city, Xcel Energy and the PUC have decided on a separation and cost plan, and condemnation court has decided on the final costs for Boulder to buy assets from Xcel Energy (e.g. poles and wires).

This brings us to the current situation, and events that will happen in the near future. The negotiations between Boulder and Xcel Energy are being finalized and soon a case will be started at condemnation court to decide on the price of Xcel Energy's assets in Boulder territory. These are steps that lead up to the election in which the citizens decide whether the municipal utility will be created or not. Moreover, this chapter provided the necessary historical context to understand the establishment of a dominant and locked-in energy system. The current system is embedded in daily life, is largely unsustainable and supports a fossil fuel-based system and is strongly embedded in regulation which causes democratic principles to be lost. The overview of Boulder's municipalization effort given in this chapter help to understand the effort as a reaction to the perceived problems related to the current energy system. Additionally, the overview of the current system and the municipalization effort is background information to the analyses in the following two chapters.

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CHAPTER 2

"It takes a village"[13]

The assemblage and its various actors, their roles, and relations

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2.1   Introduction

The municipalization effort is a socio-political contestation process including feasibility studies, raising public support, and litigations and negotiations with Xcel Energy and the state legislature. These activities constituting the municipalization effort carried out by a broad group of people which I approach as an assemblage. The municipalization effort and the people participating have a highly village-like character. This became clear to me at a public meeting I will describe.

It is February 26th, I ride my bike down to the university campus. In one of the buildings on campus the city of Boulder hosts a public meeting called 'Municipalization Update: PUC Agreements' to update the citizens of Boulder on the progress in the municipalization effort. Although I have only been in Boulder for two weeks I recognize a lot of people at the public meeting. Either because I have seen them at another meeting hosted by the city or by a citizen group or because I have heard their names in one of the stories interviewees shared with me. Tom Carr, the city attorney gives the update in half an hour and opens up the floor for questions. It is an informal atmosphere; the attendees that speak up know each other and call each other by their first names. From the questions it becomes clear who supports the municipalization effort and who opposes creating a municipal utility. They know what kind of questions and remarks they can expect from each other and have routinized interactions. Patrick, an opponent of municipalization, tries to get Tom Carr to express his concerns about the next steps of the effort. To which Tom Carr responds: "that's a leading question, Pat"[14]. Leslie, a proponent of municipalization continuously expresses her gratitude towards the city staff, to positively frame their hard work. Although these interactions seem simple, underneath lies a complex network of organizations, dynamics and relations: an assemblage.

To understand the relations in this network I initially planned on using social movement theory. But I found myself not being able to grasp the complexity of relations and dynamics found during the fieldwork. Besides, many of the relevant relations were beyond what could still be defined as a social movement in the academic debate. Therefore, as explained in the introduction, I adopted the concept of assemblages as an ontological basis to understand the relations and dynamics among

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[13] 'It takes a village': Reference to the scale of a difficult task (Urban Dictionary, 2018)

[14] Public Meeting by the city of Boulder, February 2018

the people involved in the municipalization effort. An understanding of the relations and dynamics in the assemblage is needed to understand how and why they pursue municipalization.

In this chapter I will start by exploring the concept assemblages, followed by a description of the different relations in the assemblage, while using insights from the academic debate on assemblages and social movements. To understand the dynamics of the assemblage I will describe several layers in the assemblage. It must be noted that the distinction between these layers is rather arbitrary and does not capture the assemblage's complexity. It is however needed to structure the understanding of the assemblage for analytical purposes. I therefore choose to make a distinction in layers based on different categories of people I defined in cooperation with the research participants. I will start by explaining the dynamics in first layer, the social movement. Then I will expand the scope to the next layer, the alliance found between the social movement and the city of Boulder. The third layer I will describe is the public debate. Lastly, I will provide insight in Boulder's role in a translocal network. Throughout the chapter additional attention goes to the themes trust, participation and educations as these are identified to be of high influence on the relations in the assemblage.

2.2   Assemblages '101'

The concept 'assemblage' has its roots with philosophers Deleuze and Guattari in the 1970s and 1980s (Müller 2015). An assemblage is by Deleuze defined as: "a multiplicity which is made up of many heterogeneous terms and which established liaisons, relations between them across ages, sexes and reigns – different natures. Thus, the assemblage's only unity is that of co-functioning, it is a symbiosis, a 'sympathy'" (Deleuze and Parnet 1987). Highly simplified, this means: an assemblage is heterogeneous and autonomous entities forming a network (Levkoe and Wakefield 2013; Deleuze and Parnet 1987; Müller 2015; Wezemael 2008; McCann 2011; Marcus and Saka 2006). To understand the dynamics found in Boulder the following five characteristics of assemblages are insightful.

First, assemblages are heterogeneous. The entities forming a network can be both actual (e.g. humans, other organisms and material) and virtual (e.g. ideas, meanings, discourses) (Deleuze and Parnet 1987; Müller 2015; Wezemael 2008). Moreover, these entities are historically produced and constantly in development or in a phase of 'becoming' (Wezemael 2008; Marcus and Saka 2006; Ingold 2011). Thus, though the entities are autonomous, they are a constantly changing as a result of relations. Second, assemblages consist of the relations between autonomous entities, therefore "the properties of the component parts can never explain the relations which constitute a whole" which also makes them non-linear (DeLanda 2006, 10). Third, due to the relational consistency of assemblages, an assemblage is infinite. Drawing boundaries are "delineations of convenience rather than absolute, fixed borders between 'in' and 'out'"(Levkoe and Wakefield 2013, 102). Fourth, assemblages' organization is not pre-determined, but self-organized and dynamic in organization. (Müller 2015, 28). Assemblages are occasionally explained as being non-hierarchical. This does not

mean that assemblages are 'flat' but that the hierarchies are result of "modes of organization of disparate substance" rather than result of the entities and their properties (Grosz 1994, 167). Despite the fact that assemblages are non-hierarchical there are differences in intensities of different entities in the assemblage. The higher the intensity of an entity, the more influence it has on other entities and their relations in the assemblage (Wezemael 2008). Last, assemblages are also dynamic in making (and unmaking): "they are always coming together and moving apart" (Wise 2005, 79). "Assemblages are works in progress. They involve invention, labour, politics and struggle on the part of those involved in them" (McCann 2011, 145). Müller (2015, 29) describes this as being productive: "they produce new territorial organisations, new behaviours, new expressions, new actors and new realities".

The interest in assemblage has increased in the past decades as a result of a general popularity of Deleuze and Guattari throughout social sciences and as a result of growing need for concepts embracing the emergent, the heterogeneous and the complex (Marcus and Saka 2006; Mccann and Ward 2012). In this research assemblages will form the ontological foundation, both in understanding the relations of the assemblage and understanding these relations and entities, the actual and the virtual, in relation to its history and context. For this understanding I will use all five characteristics of assemblages described above. The first two – assemblages being heterogeneous and relational – are mainly used as underlying principles. The third and fourth – assemblages being infinite and dynamic in their organization – have an explicit role in understanding dynamics found in the assemblage in Boulder. The last characteristic, which relates to assemblages being productive, provides a foundation to the activities and knowledge that the assemblage produces. This characteristic has a more prominent role in the third chapter of this thesis.

In studying assemblages, researchers often include material entities besides people, ideas and relations. Despite the fact that an electricity grid has been studied as a techno-social assemblage by other studies (e.g. Harrison and Popke 2018), I chose to keep my focus on people, ideas and relations and not focus on material entities. I made this decision because in the current situation in Boulder the relations in the assemblage are mostly between people, ideas and governance rather than electricity technology and infrastructure. It must be noted that among these ideas imaginaries and knowledge about electricity technology and infrastructure have a strong presence.

2.3   A wild group of excited people

The following subchapter focuses on the first layer within the assemblage, on what can be defined as a social movement, which is understood as: "[i]nstances of collective action with clear conflictual orientations to specific social and political opponents, conducted in the context of dense inter-organizational networking, by actors linked by solidarities and share identities that precede and survive any specific coalitions and campaigns" (Diani and Bison 2004, 283). 'The social movement'

in this case refers to those people in the assemblage that meet the definition. In this subchapter I focus on relational aspects within the social movement by utilizing the concept assemblages, which aids understanding these relations (Legg 2009; McFarlane 2009; Davies 2012). It does so by giving a sense of how dynamic processes are plural and occur across space and time increasing connectivity throughout a network (McFarlane 2009). I will explain these phenomena by looking at the six organizations that constitute the social movement and by looking at the individual people that make the social movement the dynamic assemblage it is by being heterogeneous, relational, dynamic in its borders and organization, and productive.

2.3.1   Organizations and roles that complement each other

At the basis of this social movement there is a loose coalition of six organizations: Empower Our Future, Clean Energy Action, New Era, local chapter of the Sierra Club, Plan Boulder County and the local chapter of 350.org. These organizations fulfill different roles within the social movement and vary in the level of involvement. The level of involvement is mostly based on the amount of activities related to the municipalization effort they partake. I will focus on the first four because these are most influential in the municipalization effort. EOF is the organization that is most involved; it is continuously actively involved by coordinating the different organizations and people involved. CEA fulfilled a very active role in the past, by initiating municipalization and educating citizens and politicians in Boulder on the topic. Currently the organization is still constantly involved but in a more passive manner, as they focus on a variety of issues in the energy system. CEA and EOF both educate the public through organizing and participating in informative events, participating in public debates and meetings, writing letters and articles in local newspapers and through spreading information using other channels (e.g. social media, flyers, personal communication).

The second most involved organization in the assemblage is New Era, also continuously involved and most active during campaigns. There is a strong level of cooperation between EOF and New Era, both on an organizational and personal level. Molly F, the organizational director of New Era describes the coordination between New Era and EOF as "[…] amazing. Both groups have great strengths that are unique to each group". Whereas EOF has the scientific expertise on municipalization, New Era has more knowledge about campaigns, communication and outreach. Molly F calls that "two different dynamics that really complement each other"[15].

The fourth group, the local chapter of Sierra Club becomes active during campaigns by supporting municipalization. Rebecca, chairwomen of the local chapter, says: "Sierra Club members are not the energy experts […] but they have the numbers, our members" (over 3 million nationally and 4500 locally). Besides, it is a well-known environmental organization, which is in the social movement seen as an advantage, because "the name provides some credibility to the municipalization

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[15] Interview Molly F (Organizational Director New Era, Colorado), February 2018

effort"[16]. The Sierra Club's role during campaigns is to provide funding (e.g. $60.000 in 2013), to give endorsements in elections, educate members and give voters advice.

2.3.2 "The group is stronger than the sum of its parts"[17]

Although the previous paragraph described the different organizations that form the basis of the social movement, during fieldwork it became clear that it is mostly the people within the organizations that shape the role of the organization in the municipalization efforts and how involved the organization is. This can be understood by looking at the fourth characteristic I described in 2.2, which holds: the organization of assemblages is not pre-determined but is self-organized and dynamic. Moreover different entities can have different intensities within the assemblage (Davies 2012; McFarlane 2009; McCann 2011). There is a group of people that show a constant commitment to the social movement: the core group. These people have many strong relations throughout the assemblage, which can be seen as a higher intensity in the assemblage. The core group consists of roughly ten people that meet regularly, weekly to monthly, depending on the necessity. Within the core group most people consciously decided to dedicate a lot of time to activities related to the municipalization effort. For example, Ken and Julie, two people in the core group. We were having a conversation how they got involved in the social movement and the two of them were joking whose "fault" it was.

Ken: "It is Julies fault I'm involved. The city was getting ready to sign the franchise. People didn't agree because things were changing faster than a 20-year franchise could adapt to. I researched municipalization and knew it would be hard. But there is always something pushing you over the edge. In my case, I sat outside the teahouse in the spring; the flowers were in bloom, a beautiful setting. We [Julie and Ken] sat down and brainstormed. Julie was new to it. I explained her it was going to be a tough fight and it needed people to be committed for a few years. Julie looked at me and said 'uhu'". Julie: "I retired 3 weeks later, haha."[18]

Julie retired from her job as speech therapist to dedicate most of her time to work as a volunteer on a variety of issues, including the municipalization effort. Julie is, like many in the social movement, an active woman. She is constantly socializing, sits on the board of CEA, coordinates many tasks for EOF, is a volunteer at a cooking school for the homeless and hikes, skies or bikes everyday (or multiple times a day). Within the social movement her role is often as a mediator or as a guard of the social dynamics. Julie's role, but also the roles others in the social movement, have often depended on their personal expertise. People in the social movement have different kinds of expertise or interests. This often reflects in the organization they are involved with and the role they have. Their intensity in the social movement depends on whether they can actively use their expertise or not.

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[16] Interview Rebecca (Chair of the Local Chapter of the Sierra Club), March 2018
[17] Interview Chris (Empower Our Future), February 2018
[18] Focus Group 1, April 2018

Chris describes the group self-organizing based on expertise and therefore "passionate […] and fun to work with". That everybody has their own strengths and knows each other's strengths "brings synergy: the group is stronger than the sum of its parts"[19]. Chris is continuously active as his role is to facilitate meetings and group processes. In doing so he uses tools from his background in organizational psychology to prepare and plan meetings, therefore utilizing his expertise.

Moreover, the social movement does not have clear boundaries. People are constantly joining, leaving, or less active for a while. This relates to the third characteristic of assemblages, which describes assemblages as being infinite and having no fixed borders, and to the self-organizational aspect of the fourth characteristic. An example is how Julie joined the social movement.

In 2006 Julie had just moved to Boulder. One evening she visited the library close to her new house in south Boulder. Just before closing a group of people came up from a downstairs meeting room. "These people just came bubbling out of the basement […] they were so excited, I thought 'who are those people?!' They were talking about renewable energy. […] It was a wild group of just excited people, they would stand there outside the library in the cold for half an hour like 'blablablabla' […] I said: 'who are you?' They were so enthusiastic that I started going to meetings. By 2008 I got on the board. […] So, when I moved here I started going to Clean Energy Action meetings quite by mistake". By joining CEA, Julie joined the social movement.[20]

The six organizations have an important role in attracting new people, as happened with Julie in 2006. The groups are divergent in their way of organizing. EOF is a fluid network of people active whenever they can utilize their expertise, whereas CEA and PBC have an appointed board and staff. New Era has a quick turnover of young employees and volunteers. Sierra Club Boulder has a large base of registered members that vary in level of engagement. These different ways of organizing are reflected in all activities carried out by these organizations. For example, how they communicate, or what priorities they have. One could argue that the divergent means and meanings are a disadvantage for collaboration and for achieving goals. But these differences strengthen the social movement by attracting a variety of people and bringing new insights.

A variety in people can be seen in terms of age of people involved. New Era is a group consisting out of and targeted at millennials. EOF is largely driven by volunteers over the age of 50, many of them retired (there are a few exceptions). Similarly, Sierra Club Boulder's members are generally above 50. Besides being able to attract people from different generations, these generational differences lead to unexpected relations, for example between Chris and Duncan, a 24-year old who works as a staff member for CEA. Chris has been teaching Duncan about group processes and facilitation, so Chris could take a step back and Duncan could occasionally take over. Moreover, between the different generations there is a high level of mutual respect. 'The old leadership' has a lot

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[19] Interview Chris (Empower Our Future), February 2018
[20] Interview Julie (Clean Energy Action & Empower Our Future), March 2018.

of knowledge on the history and details of municipalization. They often praise 'the new leadership' for being eager to learn and picking up on this knowledge quickly. Both explicitly express that they value each other's insights or opinions when decisions are being made.

Other ways that make the actors heterogeneous are level of commitment, drivers, expertise, interest and networks that people or organizations bring in. Like Chris said about the different expertise people bring in, these differences strengthen the social movement. Different insights and approaches can lead to broader understandings of the cause and to creativity in actions and broad coalitions (Tsing 2011). This is, as explained also the case in Boulder, however the social movement has hardly managed to ally with businesses. Some research participants think that businesses fear contesting Xcel Energy as they are depending on the electricity the company provides. The social movement did find an important ally in the city of Boulder. This alliance is the focus of the next subchapter.

2.4 "If the people lead, the leaders will follow"[21]

Alison and I drive to the Dushanbe teahouse[22] in her Prius. The teahouse is just across the street from the municipal building. Both people in the social movement and employees of the city staff often use the teahouse for meetings. When Alison and I sat down she said: "This is where it all started". She explains that the alliance between the city and the social movement has its roots in 2003. In 2003 Ariel had just moved to Boulder from Palo Alto (California) to start his job as city attorney for the city of Boulder. In Palo Alto, Ariel also worked for the municipality which had a municipal electricity utility. Alison explained that she was very interested in the potential for a municipal utility in Boulder and picked Ariel's brain about the issue. "We [Ellen, Ariel and Alison] met once a week to strategize". Alison and Ellen are both citizens that participate in different working groups and boards of the city. They met up weekly in the teahouse. During these meetings Ariel shared his experiences in working with a municipal utility from Palo Alto. Together they planned how to educate and bring the community together on the topic of municipalization[23].

The roots of the alliance between the social movement and the city can be traced back to the meeting in the teahouse in 2003. It is hard to pinpoint when or where this alliance exactly started. Likewise, it is hard to say when the municipalization effort started, because the idea of municipalizing has been discussed far before 2003. However, it can be said that the meetings between Ariel, Ellen and Alison contributed to building personal relation. Personal relations are the basis of the alliance, which was fundamental to the municipalization effort by creating the political space necessary to make it a political contestation rather than solely a social contestation, and the alliance allowed for

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[21] Interview Alison (Clean Energy Action & Empower Our Future), March 2018
[22] The teahouse was a gift to the city from Boulder's sister city Dushanbe in Tajikistan. Now it is used as a commercial teahouse.
[23] Interview Alison (Clean Energy Action & Empower Our Future), March 2018

knowledge to be shared and created. These two fundamental parts of the municipalization effort were a result of the alliance and reinforced the relations in the alliance.

2.4.1   Creating political space

The social movement has contributed to the creation of political space in three ways, by opening up discussions concerning municipalization, by pushing for a mandate for city staff to explore municipalization, and by campaigning for candidates that support the municipalization effort.

First, the social movement initiated a discussion on municipalization, by addressing the need to discuss the idea in a political setting. As a result, the city council could take the discussion that was already taking place among members of the social movement to the political arena. According to Macon, who served on the city council from 2007 till 2015,

"these groups [in the social movement] create the political space within which the council can act. […] if you have the organizations that you mentioned coming to say 'this [municipalization] is something that is important to us, and we want to save the planet and we'd like to do public power' it creates this political space where the council can much more safely and effectively act"[24].

Second, following the political discussions on municipalization the social movement encouraged city council and the voters to give a mandate to city staff to act. This was done through the votes and through providing a budget and appointing staff to carry out tasks related to the municipalization effort. In an interview with Jonathan Koehn, at the Dushanbe Teahouse, he explains that the voters and elected officials told the staff to explore municipalizing, but that it was mainly the voters. "It was the community that said 'no, do not sign the franchise let's once and for all figure out if municipalization is a viable option for us'"[25].

Third, groups like EOF endorse and campaign for city council candidates supporting municipalization. Their 2017 campaigns were seen as particularly successful. In the current city council only two out of nine councilmembers do not support municipalization. Besides, several people first engaged in one of the social movement groups later ran for city council. On the current city council there is Sam Weaver who was involved with EOF and spends a lot of time educating the public on municipalization in the early years of the effort; Jill Grano, was on the board of New Era prior to running for council; Suzanne Jones, the mayor of Boulder, who ran for city council in 2011 "largely because of municipalization"[26]. The other way around, former council members get involved

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[24] Interview Macon (Former City Councilmember), March 2018
[25] Interview Debra Kalish (Attorney, city of Boulder) and Jonathan Koehn (Regional Sustainability Coordinator, city of Boulder), March 2018
[26] Interview Suzanne Jones (Mayor/City Councilmember), April 2018.

with the social movement as they finish their term, for example Susan and Crystal, who will be introduced in the next section. These developments strengthen personal relations in the alliance.

2.4.2   Various paths to educate the city

The second foundation of the alliance between the city and the social movement is educating each other. This is continuously evident in the course of the municipalization effort. The education started with a speaker's series CEA initiated in 2009. The series was aimed at educating themselves – the social movement –, the city staff and council and the public on possibilities for renewable energy. Municipalization was one of the possibilities explored in this series of lectures. They invited leaders of municipal utilities across the US and other actors that were affiliated with public power. For example, officials from Winter Park (Florida) and Denton (Texas) talked about the municipalization processes in their cities and mostly focused on the political efforts. Paul Fenn from the municipal utility of San Francisco (California) gave a talk on the potential of renewables in a municipal utility. John Farrell of the Institute of Local Self-Reliance spoke about the possibility to municipalize and focused on international cases and Representatives from the Colorado Association of Municipal Utilities spoke of the possibilities based on local cases. These talks varied from technical ('How could a Boulder municipal utility run its distribution system') to financial and legal ('Municipalization: traditional and creative legal and financial approaches' by two lawyers) to political ('Can Boulder learn from Marin? Making renewable energy a community choice')[27]. Several (former) city councilmembers and people throughout social movement praise the successes of the speaker series started by CEA. For example, Susan and Crystal, both former councilmembers; while we're having lunch with the three of us, we talk about their time on city council in relation to municipalization.

Susan: "I remember those years really fondly because there was so much we didn't know".
Crystal: "Oh, it was so interesting".
Susan: "people were invited to come and give talks on what was going on here-and-there, what was the latest technology. And it did bring together this core group of people that is together today, that know a lot and really are still pushing for municipalization."
In terms of bringing in speakers Crystal says: "CEA was the one really lining them up, one after another. […] They'd always invite councilmembers during the day and have a public meeting in the evening"[28].

In contrast to the situation in 2009, at the time of my research the city council had a deep understanding of the municipalization effort. The social movement does however have a role in educating the council on developments in other parts of the country or newly raised concerns. The social movement shares these insights through public meetings (e.g. the bi-weekly city council

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[27] Clean Energy Action, 2018 and informal chats with Julie (Clean Energy Action & Empower Our Future)
[28] Interview Susan (Former Mayor/City Councilmember) and Crystal (Former City Councilmember), March 2018

meetings) or personal communication with councilmembers. In addition to the educational aspect of the speakers' series, both Susan and Crystal and current Mayor Suzanne Jones describe that this shared learning experience led to several personal relations between councilmembers and the social movement.

City staff members are mostly educated by the social movement through its participation in working groups. These are groups of volunteers that work on a specific issue, or advice staff. During the exploration of municipalization different working groups were established to do part of the exploration. Examples of working groups are the Resource Modeling Working Group in which many active in EOF participated (e.g. Leslie, Tom, Sam, and Alison etc.), the Financial Working Group and the Communication and Outreach Working Group. In these working groups many of the volunteers had expertise in the issue, besides which consultants or experts were hired to facilitate the processes[29]. These working groups are an institutionalized form of participation in Boulder, which the social movement made use of.

During my research, fewer working groups were active than during the feasibility studies done from 2011 until 2013. There are still two working groups that are of importance in the relationship between staff and the social movement. Most importantly, the Tech Working Group forms a bridge between the social movement and staff. Staff uses the working group to inform the social movement and the social movement uses the group to express concerns. During the meetings complex decisions in relation to municipalization are discussed to mitigate risks any actor foresees. The relations in the working group are constantly under pressure because the staff has to balance input from different stakeholders while the working group members want to be as influential as possible in these decisions.

The alliance between the social movement and the city is fundamental for the municipalization effort. In the introduction I defined the municipalization effort to be constituted of, most importantly, feasibility studies, raising public support, and litigations and negotiations with Xcel Energy and the state legislature. Feasibility studies were carried out in cooperation between the social movement and the city. The city is depending on public support raised by the social movement to be able to continue the municipalization effort. Litigation and negotiation processes are done by the city, but decisions in these processes are often partially based on information from the social movement.

2.5   The public debate

The next layer of the assemblage I will discuss is the public debate. I am using 'the public debate' as an overarching term for all information related to municipalization that shapes the understanding and orientation of the general public of Boulder in relation to the municipalization effort. This includes

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[29] City of Boulder 2018a.

political discussions on municipalization, information the city provides, educational and campaigning efforts by the social movement and by opponents of municipalization, information from journalists and researchers that report on municipalization in- or outside of Boulder. An important channel in the public debate is the local newspaper the Daily Camera. The various articles by reporters of the newspaper and the op-eds (guest opinion articles) can be seen as a reflection of the public debate. Almost every morning I flipped through the newspaper. Approximately three times a week I found one or several articles related to municipalization. One time I participated by writing an op-ed myself, which can be found in the appendix. In these articles, and more generally in the public debate the city staff aims at objectively informing citizens about the progress of the municipalization effort and the social movement, and opponents of municipalization aim at educating and convincing the general public while highlighting either advantages or disadvantages of municipalization. In this section I will mainly focus on how the public debate is shaped by contributions of opponents and by trust issues related to the objective information the city staff aims at providing. Less attention goes to the contribution of the social movement, as it reflects their understandings of energy democracy, presented in the next chapter. This subchapter is based on observations at public meetings, grey literature, information from the research participants and Working Groups, without research among the general public, as this was out of my scope.

2.5.1   Opponents in the public debate

Despite the fact that over 40% of the voters have voted against the extension of the funding and the mandate for the city to explore municipalization in the past years, there is only a small group of opponents of municipalization that actively participates in the public debate. The most outspoken are John, Patrick, and the utility company Xcel Energy itself.

John, CEO of Boulder's Chamber of Commerce, represents businesses and the concerns of businesses in the public debate. Large businesses (e.g. IBM) are mostly concerned about the uncertainties a new utility brings in terms of rates and reliability. Both might have a high influence on their business management. Additionally, Xcel Energy is a member of the Chamber of Commerce. Through committees and discussions of the Chamber of Commerce Xcel Energy has a platform to express their concerns and ideas with other businesses. It is likely that they influence the perception other businesses have of the municipalization effort and the concerns John voices in the public debate.

Xcel Energy adopted a communication strategy to stop municipalization from happening. This communication strategy is based on other electricity utilities that have dealt with cases of municipalization and aims at convincing the public that there are hardly any cases of municipalization that were effective in terms of management and costs. It stresses the reliability of energy Xcel Energy provides and their goals in terms of renewable energy.

Individuals, like Patrick, mainly express concerns that relate to financial risks concerned with municipalizing, the current costs of the effort and their mistrust in the capabilities of the city of Boulder. Patrick is one of the most outspoken opponents. He writes as many op-eds as the newspapers allow him to, makes educational videos about the cost related risks of municipalization, participates in working groups and is present at nearly every municipalization related event, like the public meeting in the introduction of this chapter. All other research participants know him, and he regularly interacts with people in the social movement, city council and city staff to share his concerns.

2.5.2   An information vacuum

Multiple research participants, from the social movement, the city, and opponents of municipalization, expressed that a decrease of trust in the city in relation to municipalization among citizens of Boulder emerged in the past years. I identified three underlying issues to this decrease: a decrease in possibilities for public participation, a lack of objective and transparent information from the city, and lack of confidence in the capabilities of the city to run a public utility. The following paragraphs about trust are the research participant's perceptions of the trust issues among the public of Boulder.

In chapter 1 I mentioned that executive sessions from 2015 until 2017 affected the public debate. These executive sessions allowed the city council to meet non-publicly and keep information from these meetings secret, which is not possible unless the voters allow for executive sessions. Public participation has an important role in local politics in Boulder. The lack of possibilities to participate in decisions made about the municipalization effort impacted trust. The city acknowledges an information vacuum has impacted the debate. This fragment of an article about a public meeting in the Daily Camera shows the acknowledgment:

"'It's my fault', Tom Carr, the city attorney, took some of the blame when Councilwoman Lisa Morzel complained about a lack of awareness by citizens of basic facts related to municipalization, and about where Boulder sits in the years-long effort. "I want to take responsibility for a lot of the radio silence over the last year or so," he said. "While we were in litigation (with Xcel Energy) before the PUC, I was very nervous about any statements the city might make that might push the commission in one direction or another." […] Now that the commission has issued its ruling, though, and Boulder is planning to begin the process, at some point next year, of condemning Xcel's assets, Carr said the city is "out from under" its self-imposed order of silence. […] 'Those constraints are off. We will do better going forward'"[30].

There is potential to rebuild trust between the city and social movement, as personal relations are still present and both express a willingness to cooperate. The opposite is the case for rebuilding trust between opponents and the city. Opponents are more critical towards the city in the public

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[30] Daily Camera, November 2017

debate than ever. Most of this critique focusses on objectivity and transparency of the city and its capabilities of running a municipal utility.

Criticism on the lack of objectivity has been discussed in the meetings of the Tech Working Group and the Communication and Engagement Working Group[31]. The latter advised that the city would be more trustworthy if it communicated factual information and if it wanted to communicate visionary messages it should clearly indicate the difference. Additionally, many research participants indicated that most staff members seem to be in favor of municipalization because they believe municipalizing is the most effective way to reach the goals set for renewable energy. Moreover, in conversation with city staff employees they expressed a willingness to move forward with municipalization.

Both people in the social movement and opponents stress the lack of transparency. While the social movement mostly express their concern towards the city and urges them to be more transparent, opponents use the lack of transparency as an argument to oppose municipalization in the public debate. An example is a conversation I had with Patrick about a meeting he attended with three other members from the public, Tom Carr and Heather Bailey and an assistant.

Patrick: "I said, 'Tom how come every time we go to one of these legal things [litigation and negotiation] and you come back., you ignore all the things that went bad and only talk about all the wonderful good things that came out of it'. […] I said: 'Tom, how can you keep doing that, how can you keep presenting the positive side and not the negative side'. He said: 'well we don't have to, you do that'. I thought: 'you mean it's my responsibility to inform Boulder about all the things that are going on with the muni'. And though: 'You just proved something. You just proved that you're not transparent'. I didn't say that to him. But I will write that in a letter to the editor"[32].

In this letter to the editor (op-ed) Patrick sums up several mistakes city officials Heather Bailey and Tom Carr made over the years and facts they held back. In the case of lack of transparency, mistrust is mostly of personal nature[33]. Although, trust in institutional systems and interpersonal trust are often related to each other (Kroeger 2016). In terms of capabilities the mistrust is both toward persons and toward institutional systems. Patrick referred to mistakes specific people made, in his op-ed. Other opponents just generally stated they do not know if the city is capable of running a municipal utility. Throughout the assemblage people view this trust issue to be of influence and a potential reason for voters to stop the municipalization effort.

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[31] The communication and Engagement Working Group was a project group in the first months of 2018 that researched communication and engagements efforts and potential for the city in relation to municipalization, as part of the city's efforts to improve public participation on the effort.
[32] Interview Patrick (Opponent of municipalization), March 2018
[33] Daily Camera, April 2018

2.6   A node in a translocal network

If you would zoom out of the assemblage present in Boulder you will find the assemblage to be a part of a translocal network in which locally concentrated assemblages (or nodes) can be found in cities that strive for energy democracy. The strongest linkages can be found with cities that have a municipal utility or attempt, or have attempted, to municipalize (e.g. Winter Park (Florida), Denton (Texas), San Francisco and Marin County (California). Relations between these nodes can be found nationally and to a lesser extent internationally. These relations are between different people in the assemblage. The social movement is in contact with other citizen groups or movements to educate each other on strategies and with government officials of other cities, NGOs (e.g. American Public Power Association) and researchers. The city mostly had contact with government officials in the other cities. This contact is also mainly focused on sharing experiences and educating each other. During the speaker's series the social movement had an important role in setting up these contacts, not only with other social movements but also with governmental actors of other cities. The linkages between the nodes are mostly focused on exchanging information and learning from each other either through direct contact, or by using publicly provided information.

Additionally, during an exercise in storytelling, Julie and Tom – two participants in the core group of the social movement – describe another effect being in contact with groups outside of Boulder has. This effect is encouragement and hopefulness toward the municipalization effort in Boulder and potential for changes in the energy system on a broader scale.

Julie: "one of the most interesting, exciting, hopeful things is that many other communities have come to Boulder for information and inspiration. It gives me the illusion that more people will benefit than just Boulder. It also legitimizes". Tom mentioned a conference employees of the city of Boulder participated in; most other participating cities were giant cities like New York and Chicago. "They [the other cities] told Boulder, 'do you understand what reach you guys have. You're just a little town but punching way above your weight'. They were very impressed with Boulder"[34].

But also, opponents of municipalization look beyond the borders of Boulder. In their campaigns they refer to cases of municipalization that failed or ended up with high costs and high rates. The relations with other cities and places can be seen as relations between different levels in one larger assemblage. These relations show that the assemblage does not have fixed borders, similarly to the third characteristic of assemblages and – in relation to the fourth characteristic – that the organization of the assemblage divines the hierarchies and the disparate substances as mentioned in 2.2.

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[34] Focus Group 1, April 2018

2.7   Conclusion

The concept assemblages helps to understand the complexity of actors and relations present in the municipalization effort in Boulder. The complexity could be seen in its wide variety of people involved (e.g. citizens, citizen groups, city council, city staff), the different modes of organization of these people and the multiplicity of relations between them. The plurality of actors and relations opened up political space and lead to cooperation between policymakers and citizens that educated and supported one another. Hess (2018) came to similar conclusions in a research in New York State on coalitions and energy democracy. According to Hess, broad coalitions can open up political space and cooperation between policymakers and communities, which can lead to greater participation, and public support and new insights. In the assemblage I researched the link between cooperation and participation, public support and new insights are not as linear as Hess described. It might be better understood using Tsing's (2011) explanation of broad coalitions. Although she comes to similar conclusions as Hess (2018) she views coalitions using the concept assemblages, while Hess (2018) uses transition theory. Tsing (2011) acknowledges that the processes in the assemblages are non-linear and subject to multiple developments. One of these could be how, in Boulder, a decrease in trust appeared to be an important factor in the relations between the people in the assemblage. Trust is mainly influenced by perceived objectivity, transparency and capability. These influence public support, participation and new insights. All three decreased in the past years. The assemblage – the people and their values, the knowledge spread and created and the issues of trust, public support, participation and new insights – have shaped the understanding of energy democracy in the assemblage. These understandings are the main focus of the following chapter.

CHAPTER 3

"Drinking the Kool-Aid"³⁵

Understandings of energy democracy through motivations and processes of contestation and creation

3.1   Introduction

Conor, Lili, Bob and I sit at my kitchen table; we are finishing up our conversation about stakeholder relations in the municipalization effort. It is quite late, and we have been talking for several hours. I ask them for one last thing before I send them home: to write down the three most important aspects of energy democracy for them personally. Conor and Lili seem puzzled. Conor: "I feel embarrassed to ask this, but can you throw me a definition of energy democracy?" I explain that I could but will not. I want the research participants to formulate what energy democracy means to them without giving an academic definition. For clarification I say that they can think of it as 'democratization of energy systems' rather than energy democracy³⁶.

The definition of energy democracy I could have given to the research participants is the definition I gave in the introduction which holds: "first, we refer to democratization as a political call to open up energy systems to participation. Second, we engage with concurring efforts to institutionalize democratic principles in lasting organizations" (Becker and Naumann 2017, 4). Although Becker and Naumann's definition is rather broad, I did not want to impose this academic definition upon the research participants. I wanted to gain insight in their understanding of energy democracy to deepen the understanding of why they engage in the municipalization effort. The definition of Becker and Naumann is based on the several studies that observed that these movements react to unsustainable activities and the "lack opportunities for citizen participation and democratic control" (Becker and Naumann 2017, 2). In my research it became clear that the understanding of energy democracy in the assemblage is largely shaped by a trajectory all research participants that are proponents of municipalization went through. First, the research participants have a strong commitment to decarbonize. Second, they became convinced of the need to democratize as a result of the realization that Xcel Energy was unwilling to cooperate. Third, the research participants realized there were several aspects of Xcel Energy's business management they did not agree with. Last, the research participants started to see more and more potential advantages of a municipal utility. The

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³⁵ Definition of 'Drinking the Kool-Aid': "To become a firm believer in something; to accept an argument or philosophy whole-heartedly." (Moore 2002)

³⁶ Focus Group 2, April 2018

timing and speed of the trajectory was different for each research participant, but the sequence remained the same. Besides, a linkage between these motivations and the intensity in the assemblage can be seen. On one hand, building relations throughout the assemblage deepened the understanding of the issues, which broadened the set of motivations. This, for many, encourages further participation in the assemblage which increased intensity.

I will use the concept energopower to structure the motivations in relation to the perception of the power configuration. Energopower does not, however, explain how actors transform their perceptions and understandings into actions of contestation and creation of alternatives. Therefore, I will get back to the concept assemblages, and to 'cramped space', a concept within the broader concept of assemblages, in particular. I will start this chapter by explaining the cramped spaces. Followed by two paragraphs on the trajectory the research participants went through in forming their motivations for municipalization of people in the assemblage in relation to their perception of the power dynamics. In 3.4 I will explore how these motivations led to processes of contestation and creation within the assemblage. The understandings of energy democracy in the assemblage are shaped by both the motivations for municipalization and the actions of contestation and creation. I will conclude this chapter by giving insight in these understandings.

3.2. Cramped Space

In relation to identities and governance, Deleuze (1995) describes governance to be based on a major identity. Minority groups then have to work within the conditions this governance offers. Deleuze describes such a situation as fueling creation, which Van Wezemael (2008, 179) phrases as: "creation occurs in a 'cramped space' (in the middle, in-between and surrounded by impossibilities). In cramped spaces heterogeneities bump into each other. This is the environment of contestation and creation". These cramped spaces and the creation that follows lead to new configuration of power and democratic processes (Wezemael 2008). Using cramped spaces as a concept to explain contestation processes – such as the sociopolitical contestation process of municipalization in Boulder – helps understand the impossibilities a situation imposes and on how these impossibilities fuel contestation and creation.

Impossibilities are described by Thoburn (2016, 370) as following: "Social life presents boundaries or impasses rather than enabling possibilities or clear options; there is no identity that is not impossible to inhabit unproblematically". Walter and Luhti (2016, 362) explain how the experience of impossibilities translates into actions of creation and contestation

"We find ourselves in cramped space when the way ahead is traversed in all directions by blockages, boundaries and limits, be they social or material. Cramped space therefore forces its subjects to be creative and experimental, to pursue politics at the limit and fashion lives with whatever materials, languages and identities

they find close at hand. No ready-made trajectories are available under cramped conditions, and non-linear mobility is part of the experience".

This process of contestation is explained by Thoburn (2016, 370) as "tracing a path amidst, with, and against impossibilities." Using cramped space as a concept to study these processes uncovers how actors seek for creative ways to negotiate and cooperate in these impossibilities (Walters and Lüthi 2016; Wezemael 2008). Moreover, the cramped space and its impossibilities do not create isolation. On the contrary, it creates a condition of various social relations. These social relations aid the creation of a so-called 'mediator' (Walters and Lüthi 2016; Thoburn 2016). According to Thoburn (2016, 377) such a mediator can be 'real, imaginary, animate, or inanimate – a person, an object, plants, animals, myths, a certain discourse, an image, a refrain, or a problem'. Several authors refer to this mediator to be a way to express experiences or feelings (e.g. of oppression, segregation, discomfort). Having a mediator helps the assemblage shape actions of contestation and creation (Walters and Lüthi 2016).

Although Deleuze (1995) and Van Wezemael (2008) focus on identity and governance, these ideas can also be applied to paradigms shaping governance and emerging values that challenge these. In this case, the once dominant paradigm of energy monopolies shaped the current governance. Although the concept has mostly been used for issues related to identity and territories it is used for issues related to mobility and movement. Nevertheless, this research appears to be the first that uses the concept cramped space to understand an attempt to democratize the energy system.

3.3   "Grabbed around the throat by a set of impossibilities"[37]

In this subchapter I will use energopower as underlying concept to understand the impossibilities the assemblage experiences. In the first chapter I focused on three different aspects of energopower. Throughout this subchapter the focus lays mainly on the second and the third, which hold respectively: the impact of energy production on the environment and the prominent role of established energy systems in the configuration of power. It must be noted that the first aspect- the intertwinement of energy with society – is seen as an underlying driver to strive for changes in the system. State Senator Steve Fenberg described this driver as following: "Energy is something so important to the community and economy that individuals must have a say in it"[38]. Moreover, the power dynamics explored in this chapter focus on dynamics in Colorado, but it must be noted that those have to be understood as part of a broader system of power dynamics that I described in 1.3.

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[37] Deleuze 1995, 133
[38] Interview Steve Fenberg (State Senator, Co-founder New Era Colorado), March 2018.

3.3.1 Decarbonization

The initial motivation for people in the alliance to make changes in the energy system was to decarbonize. For people active in the social movement decarbonization had been a main goal even before the municipalization effort. City councilmembers all show an interest in mitigating climate change and as mentioned in the introduction, the city is committed to accomplishing the following goal: "We will power our city with 100 percent renewable electricity by 2030 and reduce Boulder's greenhouse gas emissions by at least 80 percent below 2005 levels by 2050." (City of Boulder 2017). In interviews and conversations about municipalization all research participants refer to decarbonization as the single most important goal. Some examples: Mayor Suzanne Jones, says that decarbonization is the far most important reason to change energy systems because "climate change is happening and it's happening faster than we thought"[39]; Bob: "Getting off fossil fuels is one of the biggest challenges man has ever faced, because it's so addictive. "It has been fabulous, but now it has to stop. It has been fabulous, but at what future costs"[40]; Steve Catanach (electrical engineer): "I come from an industry that is responsible for half of the emissions. I have an ethical responsibility to clean it up and help address it"[41]

Nearly everyone in the assemblage has come to the realization that they would not reach the city's climate commitment in cooperation with Xcel Energy. This focused their attention on municipalization. The realization came at a different moment for all research participants. For example, Alison was already convinced of municipalization in 2003. But for Leslie, who has been friends with Alison since before 2003, it took 7 years of researching, lobbying and testifying for cleaner energy before she agreed with Alison that Xcel Energy did not have an incentive to change. Alison and Leslie are both in the core group of the social movement. Moreover, Debra Kalish, one of the city's attorneys working on the municipalization effort, thought it was possible to reach the goals in cooperation with Xcel Energy until 2013. Deb: "I was probably the last person on the team to, as we say, drink the Kool-Aid." Her colleague Jonathan Koehn explains that the city had tried to work with Xcel Energy through a partnership taskforce, which did not have the desired outcome for either party. Debra Kalish: "I think it was after the task force that I drank the Kool-Aid, I just gave up"[42]. By which she meant that she gave up on the hope of a partnership with Xcel Energy to reach the decarbonization goals. She therefore became more motivated to work on the municipalization effort.

[39] Interview Suzanne Jones (Mayor/City Councilmember), April 2018
[40] Interview Bob (Empower Our Future), March 2018
[41] Interview Steve Catanach (Electric Development Director, city of Boulder), April 2018
[42] Interview Debra Kalish (Attorney, city of Boulder) and Jonathan Koehn (Regional Sustainability Coordinator, city of Boulder), March 2018

3.3.2   Democratization

As explained above, research participants became convinced of the need to municipalize once they experienced a lack of democratic control in the current system and an unwillingness to change. Although municipalization is often spoken of as a goal, throughout the assemblage there is awareness that it is a means to reach certain goals rather than the goal itself. These goals initially related to decarbonization, but as the assemblage got further into the process of municipalization they realized municipalization came with more advantages. These advantages relate to how the current energy system is perceived, which they critique for its power, values and lack of public control. Previously I described how assemblages in a cramped space create a 'mediator' to express their experiences of the impossibilities they face. Throughout the assemblage in Boulder, Xcel Energy is used as a mediator as most critique revolves around the company Xcel Energy. These critiques are the assemblage's expression of impossibilities.

The regulated-monopoly-agreement described in chapter 1 allows Xcel Energy to be a vertically integrated monopoly. This means they own the entire electricity system, from generation to distribution. Their size in terms of economy and geographical service area and their vital role in society and economy by providing energy makes Xcel Energy a powerful company. This powerful role is the first criticism of the assemblage. The research participants mention Xcel Energy's presence at the state legislature and several laws and decisions Xcel Energy had an influence on. For example, a decision to restrict the number of solar panels for households, as an increase of household energy generation would not be profitable for Xcel Energy. They also seem to be influential at the PUC, though this influence seems hard to define. It is seen as a subconscious form of support from the PUC to Xcel Energy that is reflected in their decision-making. A high degree of influence over large corporations on the US authorities is one of the most important drivers for energy democratization processes across the US (Morris and Jungjohann 2016).

The second criticism is Xcel Energy's business model. As explained in the first chapter, current regulation guarantees Xcel Energy a service area and profit on all investments. This allows the company to make investments that might be unnecessary, risky or not profitable in the future, provided that the PUC approves. But, the assemblage feels that the PUC could take a more critical stance in these decisions. All investments are paid for by ratepayers, so new investments by Xcel Energy can mean rate increases for all its customers, while Xcel Energy's shareholders are guaranteed a profit from these investments. The assemblage feels that Xcel Energy's priorities lay in the shareholder's profits and executive salaries rather than the customer's wishes. Scandals in which Xcel Energy spent money that came from ratepayers fuel the mistrust in Xcel Energy. On one of the most

famous examples is the rate scandal of 2009. "Xcel asked for a rate increase while it was exposed that they had exorbitant expenses that did not seem to be fair to pass onto ratepayers"[43] .

Besides feeling like a low priority, the assemblage experiences a lack of control over Xcel Energy's decisions. On the one hand it is a lack of influence on the energy system. The system can be influenced, as explained in chapter 1, through state legislation or PUC cases. Both of which have been tried by the assemblage, but are described as hardly effective compared to the effort people have to put in. On the other hand, the assemblage does not feel a strong representation of citizens in PUC decision. The PUC makes decisions in order to serve the public interest based on information given by the participants in the cases. The Office of Consumer Council (OCC) is a state official organization that is independent of the PUC and by law responsible to represent consumers in electric and natural gas cases. They specifically represent residential, small business and agricultural consumers in PUC cases[44]. The assemblage describes the OCC as an organization with good intentions, but not very effective. It is a small team too understaffed to thoroughly research the values of consumers and what decision might be best for consumers in the long term. The OCC therefore focusses on keeping rates low while maintaining the current, regulated-monopoly system. Thus, maintains to configure power to be in largely in hands of Xcel Energy and decisions to favor Xcel Energy.

3.4   An "environment of contestation and creation"[45]

In the previous sections energopower helped to analyze the perception of this system as being unsustainable and undemocratic. As explained in 3.2, in a cramped space contestation and creation are fueled by experiencing impossibilities. I view these experiences as the embodiments of the perception of the critique described in the previous section, which depend on multiple factors (e.g. values, feelings). In this cramped space, the people in the assemblage understand each other as they go through the same experience. Xcel Energy forms the mediator that helps the assemblage to create imaginaries for an alternative energy future. These imaginaries are a positive counterbalance to the perceptions related to the current energy system in shaping the motivation to engage in the municipalization effort. Both the criticism and the imaginaries are used as arguments in the public debate on municipalization. In the following section I will outline what is created: an imagined municipal utility with a number of advantages and dynamic understandings of energy democracy. I will not go into the details of what the contestation looks like, as these were described throughout the different chapters as activities of the sociopolitical contestation of the municipalization effort.

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[43] Colorado Independent 2009

[44] Interview Cindy Schonhaut (Director, Colorado Office of Consumer Council) and Ron Fernandez (Office of Consumer Council, April 2018

[45] Wezemael 2008, 179

3.4.1   Imaginaries of a municipal utility

Although several people in the assemblage are exploring other options to change the energy system, municipalization is seen as the most feasible way to democratize the system, and by many as the option that comes with most advantages. The advantages are imagined possibilities once a municipal utility is realized and are often based on lessons from the translocal network as described in chapter 2. A variety of imaginaries has been mentioned by the research participants, they can be roughly divided into the following three.

First of all, a municipal utility can (and should) reflect local values. These local values vary per city, in the case of Boulder the assemblage refers to values related to decarbonization. Despite the fact that the assemblage refers to decarbonization as local value of Boulder, in the other advantages there is often an underlying local value strengthening the belief. Reflecting local values is often connected to the utilities' priorities. Whereas the assemblage criticizes Xcel Energy for prioritizing its shareholders over customers a municipal utility prioritizes its customers' needs and values. Steve Catanach, who has worked for investor owned and municipal utilities, explains the difference in priority: "When those guys [private utilities] look in the mirror they see shareholders and money, when we [public utilities] look in the mirror we see customers and citizens"[46].

The second imaginary is local control and citizen input. This relates to the value of public participation in Boulder and is a response to the distance the assemblage feels between citizens and decision making in the current energy system. They imagine decision making in a municipal utility going through the city council and/or an appointed board and to be based on input by citizens. In the ongoing municipalization effort both the city and the social movement aim at a reconfiguration of the democratic decision making. This is similar to the decision making they aim at once a municipal utility is created. Examples of this are working groups, city council meetings and votes. In terms of issues to have input on, the research participants mention the policy of the utility, the rate structure and choice in energy resources. Local control in mitigating climate change is also linked to a need for local control in relation to national politics. These are two examples: Mayor Suzanne Jones: "At the time we need to act most and most quickly we find our institutions not serving us, except on the local level, it is frightening. We [the US] are leading the parade in terms of bad national situations"[47]. And Molly F: "With Trump in office, the progress made before is rolling back every day. Therefore, we need local solutions to address climate change. The Municipalization effort is a great example of moving forward despite the current federal office. A lot of people now see the urgency of local solutions which brings opportunities[48]."

Third, an imagined potential for innovation is stressed. This is a response to the lack of possibilities the assemblage experiences in the current system (e.g. restrictions on solar panels and

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[46] Interview Steve Catanach (Electric Development Director, city of Boulder), April 2018
[47] Interview Suzanne Jones (Mayor/City Councilmember), April 2018
[48] Interview Molly F (Organizational Director New Era, Colorado), February 2018

microgrids). Also, they often refer to the many renewable energy companies located in Boulder that do most of their business in other states because they are too restricted in Colorado. The municipal utility would be open to innovative technologies that contribute to a more reliable and sustainable electricity grid while stimulating the local economy. In terms of reliability the assemblage explains the need for a decentralized electricity grid and decentralized diverse energy sources. The need to increase reliability relates to the role of energy in the community and the need to adapt to climate change. Often is referred to 2013, when a drought followed by a flood led to a blackout in different parts of the city, to emphasize the need for increased reliability. Both for local control and innovation the assemblage emphasizes that expertise present in Boulder could be used by the municipal utility.

Furthermore, the way energy is imagined has an underlying role in conversations about municipalization. The perspective on energy throughout the alliance comes closest to viewing energy as a common. Framing energy as a common sets the focus on management of energy while acknowledging the importance of energy (Becker, Naumann, and Moss 2017b; Becker, Beveridge, and Naumann 2015; Becker and Kunze 2014; Becker and Naumann 2017; Moss, Becker, and Naumann 2015; Angel 2017). Energy, in this case, is perceived as a resource that should be collectively managed in which public ownership, participation and decentralized control is key (Angel 2017; Cumbers 2012; Harvey and Cities 2012; Moss, Becker, and Naumann 2015). Although the research participants never referred to energy as a common, all the characteristics of energy as a common can be seen in the three imaginaries.

3.4.2   Understandings of energy democracy

In the introduction of this chapter I mentioned that the understandings of energy democracy are shaped by the trajectory the research participants went through, starting with a commitment to decarbonization, followed by a realization that democratization was needed, and ending with a variety of imaginaries of a potential energy future. The three steps were reflected in the cards Conor, Lili and Bob wrote down. For example, Conor wrote "Keeping the climate livable" on one of his three cards. Lili wrote: "Citizen input reflected in final decisions/planning". And Bob wrote: "Be able to form grids, to share energy with neighbors and friends". An overview of all cards written by the research participants can be found in the appendix. As explained before, the participants went through similar experiences of impossibilities. Nevertheless, the research participants focus on different impossibilities in shaping their motivations. Several participants that were actively engaged in the municipalization effort and show a high intensity in terms of activities and relations in the assembles expressed that the democratization aspect of energy democracy were not nearly as important to them as the goal to decarbonize. To them, municipalization and energy democracy were a means to decarbonization. These research participants did mention the same potential advantages to a municipal utility as research participants that equally valued decarbonization and democratization.

Nevertheless, they indicated that decarbonization and breaking away from a fossil fuel-based system was by far the most important imaginary of an energy future. Because of these differences between people it is hard to pinpoint the understandings of energy democracy. The biggest difference in understandings is whether energy democracy is seen as a goal in itself or as a means for decarbonization. Moreover, viewing the understandings of energy democracy as part of the assemblage clarifies that these understandings are also relational, dynamic, dependent on the people and their level of engagement in the assemblage, the knowledge that is created in and spread through the assemblage and the context (e.g. the precarity of energy policy since Trumps presidency and Xcel Energy's activities).

Moreover, if you look at Boyers (2014) definition of energopower which holds: "energopower is a genealogy of modern power that rethinks political power through the twin analytics of electricity and fuel". It becomes clear that the proponents of municipalization see a municipal utility as a democratic way to organize the energy system, whereas it can also be seen as a way for the city of Boulder to restructure power, which will make them more powerful. Additionally, following the logic of cramped spaces, it could be explained that certain people in Boulder fear the creation of a municipal utility. Those that do not trust the city and feel their values are better represented by the OCC and PUC experience the municipalization effort as a cramped space and advocate against a municipal utility.

Reflection

"The US wouldn't be the richest, most influential, most powerful nation on earth if it weren't for ample amounts of fossil fuels. If we didn't have that we wouldn't have been able to do many of the things we've done as a nation. But we need to move on. We should have moved on fifty years ago. We've known the problem of carbon for a long time. We don't want a small number of people almost totally in control of this very important thing called energy. If that continues, the inequity of the last 100 years is going to continue. That inequity is causing massive problems for humanity"[49].

I start the final part of this thesis, the reflection, with a quote I also used in the first chapter. This quote, by Rebecca, one of the research participants, grasps many of the problems the participants experience in the current energy system. These problems relate to unsustainable modes of energy generation, unequal power distribution due to the organization of the energy system and the importance of energy in society. I looked at the perceptions of the energy system using the concept 'energopower'. Energopower is defined by Boyer (2014) as "a genealogy of modern power that rethinks political power through the twin analytics of electricity and fuel". The concept helps to analyze the perception of power dynamics in an energy system in relation to the intertwinement of energy with society, the impact of energy production on the environment and the prominent role of established energy systems in the configuration of power.

The city of Boulder has a commitment to 100% renewable energy in 2030. But, Boulder is provided with energy by a regulated monopoly, Xcel Energy. Therefore, the city does not have the option to choose a different electricity utility. The one option the city does see to reach their goals is to municipalize energy. Municipalization can be defined as the creation of a municipal utility to shift management of energy generation and distribution from private management to local public control and operation (Morris and Jungjohann 2016; Becker and Kunze 2014; Becker, Blanchet, and Kunze 2016; Moss, Becker, and Naumann 2015; Davis 2017). Municipalization is attempted and carried out in cities across the world. A variety of scholars studied municipalization in relation to energy democracy, which is a field of increasing interest in disciplines such as human geography and environmental policy. These scholars use various conceptual and theoretical approaches to study municipalization (e.g. social movement theory, transition theory). I, however, found it most suitable to study the municipalization effort in Boulder using the concept 'assemblages' as an ontological basis to analyze the broad group of people engaged in the effort. Assemblages are complex networks of entities and relations between them, that can best be understood as emerging, historically produced and in relation to a broader context. The group of people engaged in the municipalization effort in

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[49] Interview Rebecca (Chair of the local chapter of the Sierra Club), March 2018

Boulder mainly consists of volunteers forming a social movement, the city council and city staff. I refer to this group of people as 'the assemblage'. I aimed at understanding what cooperation in the assemblage looks like, how it shapes understandings of energy democracy and how these understandings shape activities of contestation and creation.

In the second chapter I described five different characteristics of assemblages. These characteristics helped to understand the assemblage in Boulder to be heterogenous, relational, dynamic in its borders and organization, and productive. Two of these were especcially helpful in understanding the main findings. First, the dynamics in borders and organization clarified how the group of people was indeed heterogenous in terms of engagement and expertise. The heterogenity and dynamics lead to opening up the political space, cooperation between policymakers and the social movement, public participation, public support and new insights. However, these processes are not linear. Participation and public support are subject to the course of the public debate in which arguments provided by proponents and opponents of municipalization, trust in the capabilities of the city, and objectivity and transparency of the information the city provides are of influence. Second, viewing the assemblage as productive deepens the understanding of how the assemblage moves from critiquing the energy system to contesting it. Therefore, I used 'cramped spaces' in the third chapter. Cramped space is a concept within the broader concept of assemblages, which can be explained as creative processes of creation and contestation when a group of people finds itself amidst impossibilities in the regime.

In the assemblage in Boulder these impossibilities relate to their commitment and attempts to shift to renewable energy. The assemblage in Boulder experiences the current energy system as a cramped space due to the different impossibilities. However, the assemblage is contesting this system through the municipalization effort, which I defined as a socio-political contestation process of nearly a decade which includes feasibility studies, raising public support, and litigation and negotiations with Xcel Energy and the state legislature. By doing so the assemblage is creating an imagined municipal utility which allows for local control and citizen input and potential innovation and reflection of local values. The way energy is supposed to be managed according to the research participants therefore comes close to viewing it as common – a resource that should be collectively managed in which public ownership, participation and decentralized control is central. It must be noted that municipalization is also a form of energopower. It is a way for the city of Boulder to restructure power through the energy system, which will make them more powerful. As a result, a group of people that does not trust the city to handle a municipal utility foresees the experience of impossibilities in the system that is imagined. They express this as concerns in the public debate.

Furthermore, social movements that strive for energy democracy form a translocal network, with strong linkage between cities that (attempt to) municipalize. Understandings of energy democracy in Boulder show similarities with understandings across the world. But most important in the different understandings is the local context and how within the assemblage understandings and

motivations are shared and spread. The understandings of energy democracy are part of the assemblage and therefore also heterogenous, relational, dynamic and productive. Although there is a general agreement that energy should be managed as a common, the understandings of energy democracy are variable among the research participants. Several participants that were very dedicated to the municipalization indicated that energy democracy was not nearly as important as decarbonization. To them, municipalization and energy democracy were means to decarbonization. These research participants did see that energy democracy came with other societal advantages, but these were subordinate to decarbonization. For other participants democratization became an equally important goal along the course of the municipalization effort. This means that the exact motivations do not have to be similar to reach the contestation and creation visible in Boulder. The cramped space might therefore be a result of experiencing impossibilities due to a specific dominant system rather than experiencing the exact same impossibilities.

These impossibilities should be seen in a larger context than just that of Boulder. The experience of a cramped space is fueled by the precarity of energy policy in national politics and the configuration of power on a broader scale than Xcel Energy and the state of Colorado. Across the world energy systems are considered unsustainable and undemocratic and to be of influence in the configuration of political power. In the past decade an increasing amount of research in a variety of disciplines has been done on the different problems and potential solutions to problems related to the energy system. My research aimed at deepening the understanding of how understandings of energy democracy are produced, and activities shaped in the assemblage. By providing an ethnographic study I aimed at deepening the understanding of how possibilities for new energy futures emerge, despite problematic energy regimes. I argued that understandings of energy democracy are part of the assemblage and therefore heterogenous, relational, dynamic and context dependent. Nevertheless, this research does provide insight how to study these specific cases, by perceiving contestation processes as cramped spaces looking both at the problems related to the current regime, the actors involved and what is created.

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Boulder's Iconic Flatirons

I have been lucky doing fieldwork in Boulder, because of the beautiful surroundings, the various micro-breweries, the welcoming people, and the fascinating case of municipalization, but most of all because of the research participants. My research participants made me feel welcome and of value. All of them have dedicated time and effort to help me do my research. Therefore I would like to thank everyone that participated and Leslie, Alison, Duncan, Molly M, Conor and Molly F in particular for being more than a research participant, but also a friend.

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Appendix

List of abbreviations

- CEA: Clean Energy Action
- EOF: Empower Our Future
- PUC: Public Utilities Commission (of Colorado)
- OCC: Office of Consumer Council

'The social movement' refers to the citizens and citizen groups defined as a social movement present in Boulder and focused on municipalization

'The city' refers to the municipal government of the City of Boulder, which includes elected officials (city council) and city staff

'The alliance' refers to the alliance formed between the social movement and the city.

'The assemblage' refers to the alliance and a broad group of actors affiliated with the municipalization effort.

List of interviews

Social Movement

- Steve P (Empower Our Future, former councilmember): 15th of February, in Focus Group
- Ken (Empower Our Future): 20th of February, in Focus Group 1
- Leslie (Clean Energy Action & Empower Our Future): 19th of February, 8th of March, 26th of April
- Tom (Empower Our Future): 19th of February, Focus Group 1
- Chris (Empower Our Future): 21st of February, Focus Group 3
- Molly F (Organizational Director New Era): 28th of February
- Alison (Clean Energy Action & Empower Our Future): 29th of March
- Julie (Clean Energy Action & Empower Our Future): 1st of March, Focus Group 1, and a notable amount of chats
- Duncan G (Clean Energy Action & Empower Our Future): 16th of February
- Molly M (Clean Energy Action): 23rd of February, 26th of April
- Conor (Clean Energy Action & Empower Our Future): Focus Group 2
- Lili (Empower Our Future, former City Staff): 1st of March, Focus Group 2
- Bob (Empower Our Future): 13th of March, Focus Group 2
- Rebecca (Chair of the local chapter of the Sierra Club): 12th of March
- Susan (Former city councilmember): 26th of March

- Crystal (Former city councilmember): 26th of March
- Macon (Former city councilmember): 13th of March

City Staff

- Heather Bailey (Executive Director of Energy Strategy and Electric Utility Development, until April 2018): 8th of March
- Kathy Haddock (Attorney): 12th of April
- Jonathan Koehn (Regional Sustainability Coordinator): 13th of March
- Debra Kalish (Attorney): 13th of March
- Steve Catanach (Electric Development Director): 26th of April

City Council

- Sam Weaver (City Councilmember): 30th of March
- Suzanne Jones (Mayor/City Councilmember): 20th of April

Opponents

- Steve H: 30th of April
- Patrick: 27th of March and 17th of April
- John (Chamber of Commerce): 27th of March

PUC

- Ron Davis (Chief Advisor for the Public Utilities Commission): 11th of April
- Paul Caldara (Staff): 27th of April
- Gene Camps (Staff): 27th of April

OCC

- Ron Fernandez (Financial Analyst): 24th of April
- Cindy Schonhaut (Director): 24th of April

State Legislation

- Steve Fenberg (State Senator, Co-founder New Era Colorado): 6th of March
- Bill Ritter (Former State Governor): 12th of April

Experts

- Hunter Lovins : 10th of April
- Puneet Pasrich : 30th of April

Focus Groups

Focus Group 1: 9th of April with Julie, Ken and Tom

Focus Group 2: 16th of April with Conor, Lili and Bob

Focus Group 3: 18th of April with Steve P and Chris

PAR Tools

I used different methods to open up discussion in a brainstorming kind of way, mostly during the focus groups. I did so through a regular brainstorm, which I facilitated; by letting the participants write down statements and discuss them afterwards; by two different mapping exercises. The two mapping exercises were done both in the focus groups and in individual interviews I did not aim at understanding the exact interest and influence, but the exercises were a tool for the participant to reflect on different topics, while visualizing it.

Mapping exercise 1 – Stakeholder interest and influence
The research participants had to place the different stakeholders on a graph according to their interest in moving forward with municipalization and their influence over the course of the effort.
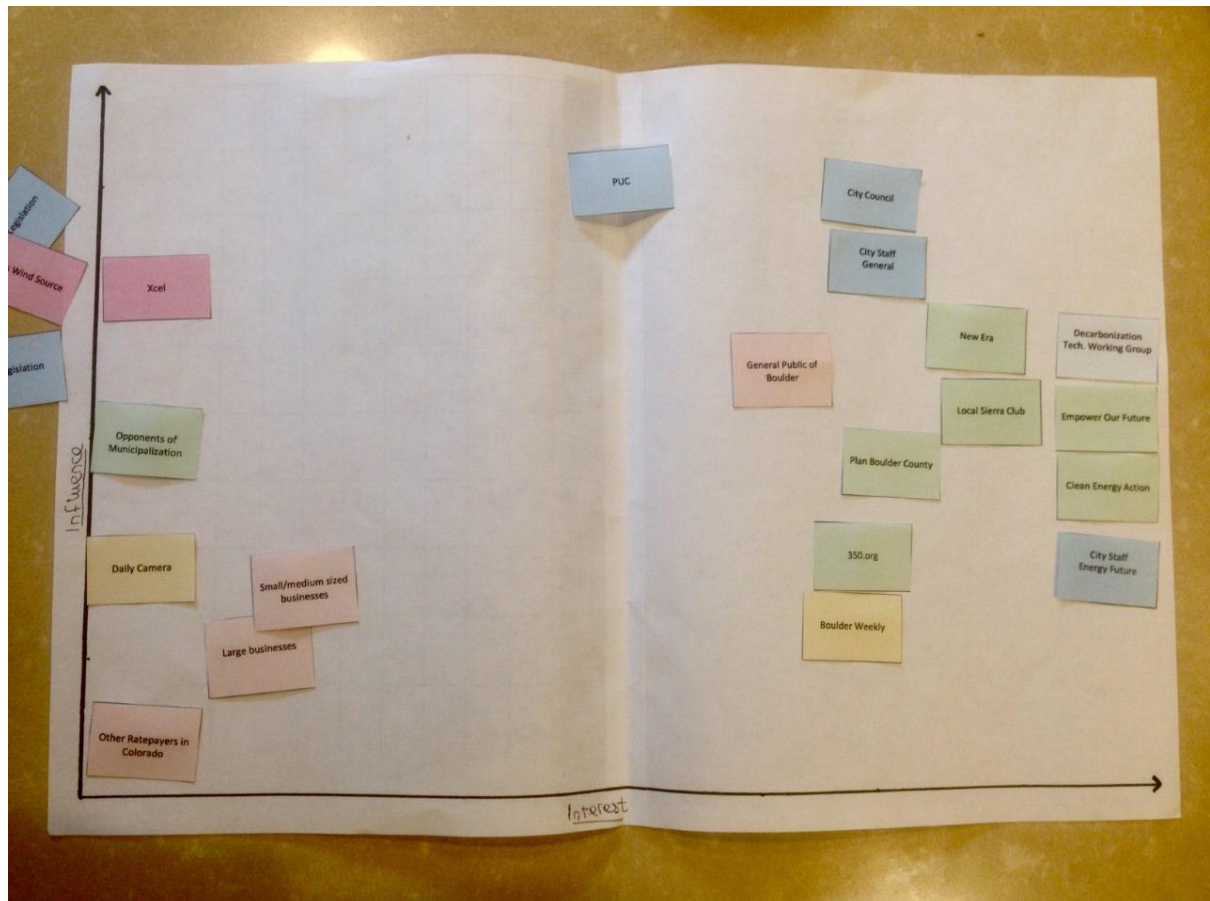
Mapping exercise 2 – Stakeholder relations and power dynamics

The research participants were asked to draw different flows of influence (e.g. funding, regulation)
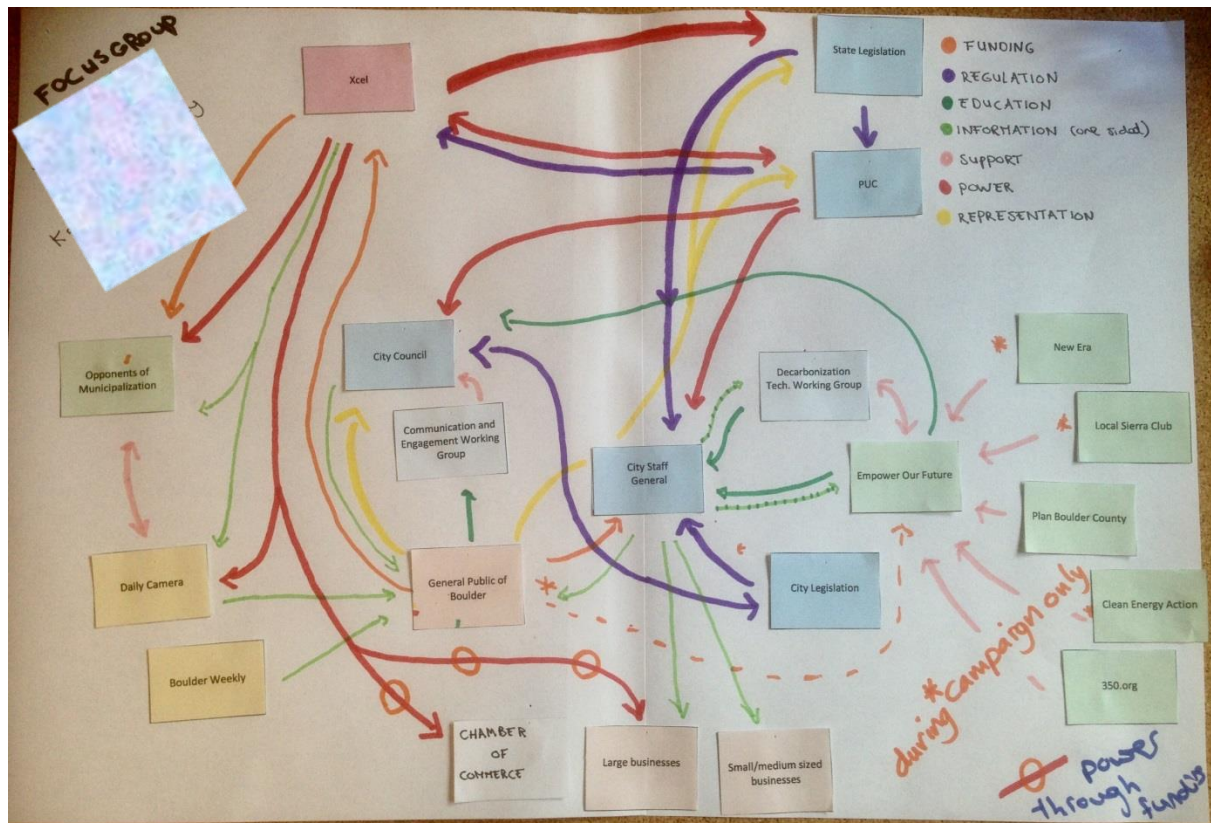
Cards on energy democracy
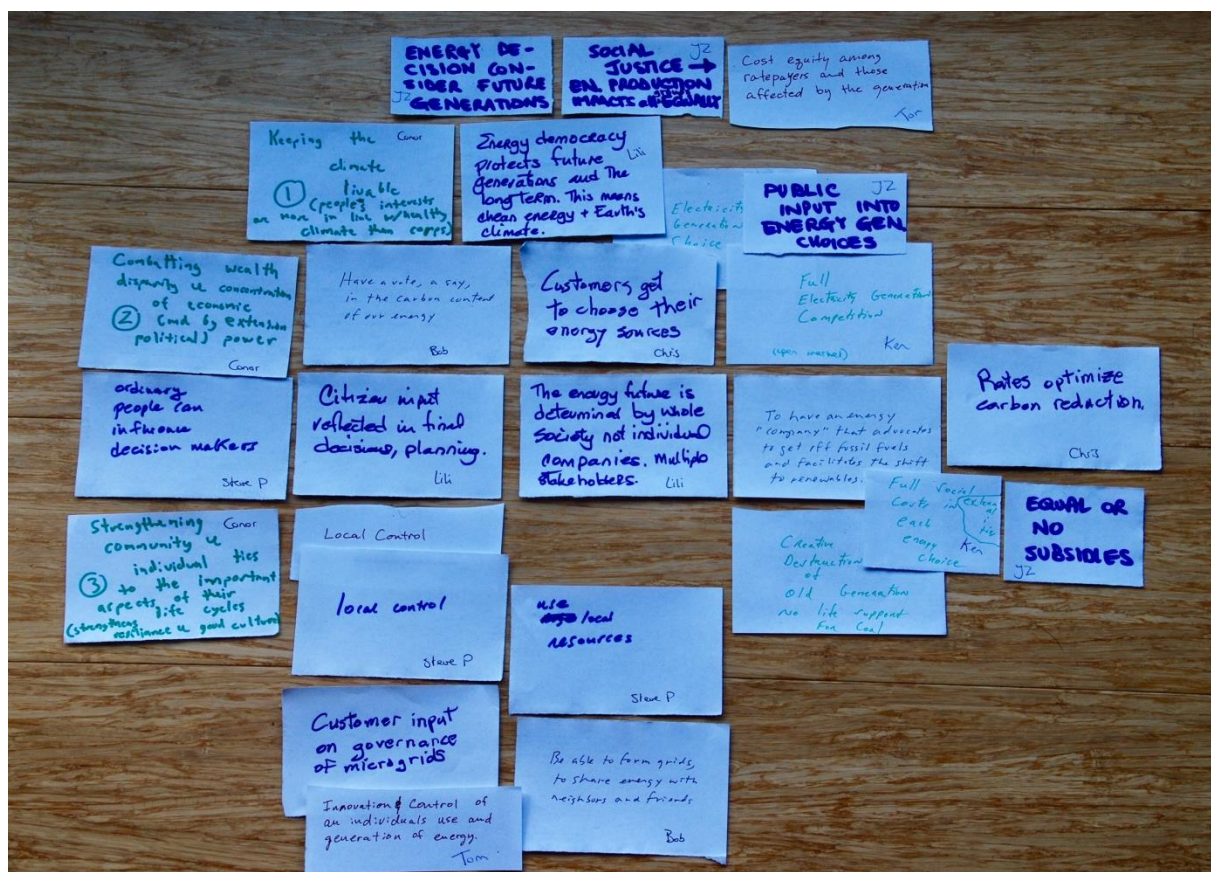
Daily Camera

Examples of newspaper articles on municipalization

Guest opinion article I wrote, Daily Camera 22ⁿᵈ of April 2018