

A first step towards societal change

How Energy Democracy could be a step towards Economic Democracy



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Introduction

Many theoretical attempts have been made to find an economic system which is social as well as non-damaging to the environment. Examples are: eco-communism, eco-communalism, libertarian municipalism, social ecology. These theories have in common that they criticize capitalism as they see it as the reason for inequality and environmental damage. In order to address inequality and environmental damage capitalism needs to be either changed or replaced by a better economic system. Most of the earlier mentioned theories propose a community based, democratically run economy. When local communities create a local economy, local citizens have power over that economy. The democratic structure ensures that all citizens have equal power within the local economy. The expectation is that when people only produce and consume locally, people will not produce more than they really need and have an incentive to keep their direct environment clean.

One such theoretical attempt is done by David Schweickart in the form of Economic Democracy. In an Economic Democracy he proposes enterprises are democratically run by its workers and locally supported by local banks. There is still a market for goods and services but who owns the means of production and private investment are organized differently. The means of production are owned by society as a whole and enterprises pay a tax to use these means of production. The tax goes into a national investment fund which is used to push innovation, and financially help communities which need it.

Schweickart's system works because it includes community based production, and it prevents inequality between communities. A point of critique of many community based theories is that communities can get exclusive or isolated. By keeping the market for goods and services, and creating a national investment fund, communities keep economically tied to each other and money keeps flowing between the communities.

So how does a society move towards a system of Economic Democracy? This thesis will try to show why an already existing counter-capitalistic movement could be the first step towards Economic Democracy. That is: Energy Democracy. The Energy Democracy movement also has a focus on democratic local production but only in one sector: energy. In Europe and Northern America there are many examples of local energy production with a democratic structure in the form of cooperatives with members. The members are owners of the energy producing technology, which is mostly renewable energy because this is suitable for local production.

The argument made in this thesis will be that the Energy Democracy movement will be a push in the direction of more local cooperative production which is needed for a society to eventually move towards Economic Democracy. Energy Democracy learns people how to be active within a cooperative and bends economic and political power from the (inter-)national level to the local level. Through spill over effects people who are active in local energy cooperatives will start to work together to produce other products or services in a cooperative way.

The goal of this thesis is to propose an addition to the theory of Schweickart, to show how his envisioned alternative for capitalism could become a reality. Schweickart his theory will act as the dot on the horizon for a non-capitalistic society, this thesis will try to describe the first step towards that dot. In doing so, this thesis tries to contribute to the theoretic field of non-capitalistic societies and their viability. If a non-capitalistic society is realistic, how can we move societies towards that future society? How can activities already present in society develop that society towards the desired change? By trying to contribute with possible answers to these questions this thesis could be relevant for social science as well as society in the broader sense.

The argument will be made in the context of the Netherlands. Schweickart sees his theory as best suitable for an economically developed and democratic society (2002: 168), the Netherlands is such a society. Next to that, the Netherlands has a growing Energy Democracy movement and a context wherein this movement could grow even more. This has to do with the historical dependency of the Netherlands on natural gas. The sourcing for gas has been causing a growing number of earth tremors in the northern region of the Netherlands, Groningen, where the gas comes from. Due to Groningen and the growing problem of global warming the government has been forced to look for more renewable sources of energy. The focus in this thesis will be on local energy cooperatives, because these kind of initiatives are not only a growing phenomenon in the Netherlands, but also a suitable construction to involve citizens in cooperative corporation and bend power from the (inter-)national level to the local level. The research question this thesis will address therefore will be:

‘To what extent and how can the Energy Democracy movement move the Netherlands towards Economic Democracy?’

The sub-questions to answer this question will be: (1) What is Economic Democracy and how does a society move towards it? (2) What is the influence of energy on the (inter-) national

economy and (inter)national politics? (3) What is Energy Democracy and how does it relate to different concepts of democracy? (4) What are the similarities between Economic Democracy and Energy Democracy and how could the second be a first step towards the first? (5) How can the Energy Democracy movement be a first step in the Netherlands towards Economic Democracy?

To answer these questions the first chapter will outline how Schweickart describes Economic Democracy: both the system itself (1.3) and how Schweickart proposes contemporary societies could move towards Economic Democracy (1.4). Next to that it will be explained how Economic Democracy relates to other theories about community based economies, like Murray Bookchin's social ecology and communalism, and why Economic Democracy is a more suitable way to structure a community based economy (1.2.4). This thesis ultimately tries to give an addition to Schweickart's theory and in order to do that his theory and why Schweickart argues this theory is needed, needs to be explained.

The next chapter will explain what the Energy Democracy movement entails. In order to explain the argument made by the Energy Democracy movement it will first be outlined how energy is the driving force behind economics (2.1) and what the influence of energy is on (inter-)national politics (2.2). According to energy economists, energy is the driving force behind an economy because energy is needed to produce and transport products. Therefore, how much energy a society has, and who in society owns this energy, has implications for how the economy functions. Next to that, it will be shown how the energy industry and the (inter-)national political level have had influence on each other in modern history (2.2.3.).

Knowing how energy is key to the economy and has a significant influence on the political level, people within the Energy Democracy argue that through changing the energy system, the way the economy and politics are organized in a society can be altered. In the second part of the second chapter it will be outlined what the Energy Democracy movement itself is and how it relates to different concepts of democracy (2.3). Lastly it will be explained what local energy cooperatives are and why these are most suitable as a first step towards Economic Democracy (2.3.3.).

In the last chapter it will be argued how the Energy Democracy movement could be a possible step towards Economic democracy. It will first address how Energy Democracy and Economic Democracy both have the same critique of capitalism (3.1) and next will explain how both propose similar solutions to address capitalism (3.2). In the next part of the chapter it will be explained how the Netherlands can provide a foundation for the development towards Economic Democracy. This section will start with an overview of recent energy

history in the Netherlands. Natural gas has been the source in the Netherlands mostly used since the 1960's but also has had, and still has, significant political implications. The combination of growing problems in Groningen and pressure from society to do more about global warming has forced the government to search for alternative ways to design the energy system in the Netherlands. This creates a breeding ground for local energy cooperatives to develop (3.3).

The next section will explain the history of Energy Democracy in the Netherlands and how local energy cooperatives have developed in the Netherlands (3.4). The last part of the third chapter will explain how the spill over effect of local energy cooperatives works, and gives some contemporary Dutch examples of local energy cooperatives where spill over effects have taken place (3.4.2.). Lastly it will be explained how local energy cooperatives through the spill over effect will be the necessary push to go towards Economic Democracy (3.5).

Chapter 1: Economic democracy

This chapter will give an outline of Economic Democracy. Since this thesis ultimately tries to give an addition to Schweickart's theory it will firstly explain what Schweickart thinks is a good system to succeed capitalism, and how one should theorize about such a successor-system. Next it will be explained why Schweickart argues against capitalism, with a focus on democracy and the environment. Here it will also be explained how Economic Democracy relates to a comparable theory, social ecology, and why Economic Democracy is a more viable system. After this, an outline will be given of what Economic Democracy itself is, and how Schweickart thinks a society could move towards Economic Democracy. Lastly, an example will be given of a contemporary case, Preston. The case of Preston is an explanatory example of a community which through local economic policy has bended economic and political power to the local level, something which is needed to move towards Economic Democracy.

1.1 A socialist successor-system theory

Schweickart's economic democracy model is what he calls a 'socialist successor-system': a new economic system which comes after capitalism. A successor-system *theory* aims to envision which steps can be taken in the current system to alter this system, and eventually create a new successor-system. According to Schweickart a socialist successor-system theory "should help us locate the seeds and sprouts of what could become a new economic order, so that they might be protected and nourished" (2012: 245). Schweickart sees his socialist successor-system as a supplement to Marx's historical materialism (2002: 9). Without claiming that historical materialism is the ultimate historical truth, Schweickart endorses Marx's claim that the human species is "a practical species groping to solve the problems that confront it" (idem: 11). In a process of trial and error, the human species gains more control over itself and its surroundings and therefore there is a development we can call progress (idem: 9).

The same trial and error development is true for our economic and political system, as they are part of the world the human species is trying to control. Eventually, capitalism will develop into socialism and after that into a 'higher communism'. In this case, socialism is the successor-system to capitalism. However, Marx never defined how this socialist system should exactly look (idem: 9). Schweickart uses historical materialism as a guide to argue for a new economic system:

“The successor-system-theory component of historical materialism asserts that we can now see quite clearly, not only that the economic system that has come to dominate the world over the past five hundred years is deeply and irredeemably flawed, but also that a viable alternative to capitalism exists that would eliminate most of the current system's inequities and irrationalities. It further asserts that there are objective forces in the world, responding to felt difficulties, pushing in the direction of this post-capitalist future.” (2004: 5).

Schweickart’s model of economic democracy is his attempt to envision a successor-system to capitalism. He does not argue however that this system is a temporary stage where higher communism is the end goal.

A successor-system theory focuses on questions of transition; *how* to transition to a new economic system. Schweickart gives four criteria which in his view should be essential to a successor-system theory:

- It should specify a proper economic model which is to some extent realistic and defensible by economists and citizens. It must also be “economically viable and ethically superior to capitalism.”
- It should be able to explain the major economic experiments of the recent past in a way that it fits with the idea that humanity is indeed moving to a post capitalist order.
- In addition to the second criteria, it should be able to explain current movements to progressive economic reforms and be suggestive of new ones
- It should provide a set of possible modifications which help to transition from a capitalist system to a socialist successor-system (idem: 11).

A socialist successor-system should therefore envision how the desirable future looks, as well as point out how historic and contemporary movements are already moving in that direction.

Next to that, it should show why there is a need to transform capitalism (idem: 16-17). If capitalism is a temporary stage and the socialist successor-system the better future, the inherent errors of capitalism must be pointed out to justify a need for a new and ‘better’ system. Which inherent errors can be found and how have these manifested already? These questions and Schweickart’s answers will be addressed in the next paragraph.

1.2 The case against Capitalism

Before arguing against capitalism, we need to know what Schweickart means when he talks about capitalism. He points out three basic components which define a capitalist society independently of the existing political structure (2002: 22-23):

- The biggest part of the means of production are privately owned, either by individuals or by corporations which are themselves owned by individuals;
- There is a market where goods and services are bought and sold at prices determined by competition. Each competing enterprise tries to make a profit;
- Most working people are wage laborers who work for individuals who own the means of production. Therefore, people who produce the products mostly do not own them.

Schweickart emphasizes that the second component, the existence of a market, is *not* in itself the essence or synonym for capitalism, as some may argue (idem: 24). Private ownership of the means of production and wage labour are also key to a capitalist system and, according to Schweickart, the most objectionable. This is because these two components create the so called ‘haves and have-nots’. The haves, or capitalists, are the people who own enough productive assets to live of the income generated from these assets and can therefore choose not to work (ibid). The have-nots are the people who do not own these productive assets and therefore do not have the choice not to work. These two components are the main drivers behind the negative consequences of capitalism and therefore, in his successor-system theory, Schweickart will try to formulate alternatives for these two components. These will be outlined in section 1.3

Schweickart points out six issues which are negative consequences of capitalism or where capitalism has a negative influence: (1) inequality, (2) unemployment, (3) overwork, (4) poverty, (5) democracy and (6) the environment. The next section will address the first four points briefly, and afterwards discuss the influence of capitalism on democracy and the environment more extensively as these are of more importance to this thesis.

1.2.1 Negative consequences of capitalism

The first negative consequence of capitalism is inequality in income and wealth. According to a 2017 OECD report on inequality in Europe, the income of the richest 10% is 9.5 times higher than the income of the poorest 10% (compared to 7 times higher in 1980) (OECD 2017: 7). When it comes to wealth the 10% richest hold half of all wealth, the next 50% richest almost the entire other half and the 40% poorest only owns 3%. The Netherlands, next to Germany and Austria, has the highest concentration of wealth at the top (idem: 10).

Schweickart argues that it is not the existence of inequality itself which is to be seen as negative. Inequality will, to some extent, always be present in society. If the consequence of inequality is that some people have more financial resources than others to buy luxury

products or villa's, but everybody in society is able to provide in their basic needs, inequality would not be that big of an issue (2002: 92-93).

However, poverty does exist and belonging to the wealthy part of society often also means having more political influence (idem: 93) If there is something like 'the poor' it means there is also something like 'the rich' at the expense of these poor. If buying political influence means altering policy in your financial favour (lowering taxes on wealth for instance), this will sustain inequality and threaten democratic values. Inequality not only means inequality in financial resources but also in power. It is not inequality itself which is problematic according to Schweickart, but the capitalist structures which cause inequality and sustain it (ibid).

The second negative consequence of capitalism is unemployment. The core of this issue is that in a capitalist economy "wages are both a cost of production and an essential source of effective demand" (2002: 96). In order to make more profit, capitalist firms try to cut costs (next to expanding markets and developing new products) and therefore search for the laborers who are willing to work for the lowest wages. In an economy where the labour market is tight, workers will demand higher wages which increases prices of products and causes inflation (idem: 97). In order for an capitalist economy to work properly, some unemployment needs to exist to keep wages and therefore inflation low. Unemployment is therefore not an unintentional negative consequence but a 'necessary structural feature' (ibid). In the contemporary globalized economy, capitalist firms search for low wage laborers beyond their nation's borders, which causes more unemployment in the original nation state (idem: 94).

The third negative consequence is closely linked to the second one: overwork. Because of ever existing unemployment and competition, people who do have a job try to do everything to keep it (Schweickart 2002: 98). So there is a paradox where a group of people want to work but cannot, and a group who has work, wants to maybe work less, but also cannot. For people who do have jobs, the balance between consumption and leisure is therefore in favour of consumption. In the absence of enough leisure, people turn to consumption to find some happiness (idem: 99). Also for employers there is no incentive to give their workers more leisure. It is better for business if employees work more, earn a bit more and spend it (idem: 100).

The last negative consequence of capitalism is poverty. Because capitalism requires unemployment, poverty is an unavoidable consequence. Here Schweickart makes a distinction between being poor in a rich country and being a poor country compared to rich countries.

Being poor in a rich country could mean you are still much wealthier than a person in a poor country, but it can be destructive to a person's self-respect (2002: 100-101). When it comes to entire poor countries, Schweickart describes how poor countries often have a colonial past and after decolonization were forced to open up their markets. This created an inflow of cheap western products and technologies which fractured the local market for goods and labour (idem: 103-104).

1.2.2. Democracy

Schweickart defines democracy as follows: “(...) democracy is a system in which a universal electorate is reasonably well informed and active, and unobstructed by a privileged minority class.” (idem: 106). Being reasonably well informed and active, and not disturbed by a privileged minority means being (as a people) sovereign. In a democracy the people should be the sovereign and therefore equal to each other in terms of political power. Privileged means, according to Schweickart, having the same political power as elected officials and, therefore more than the rest of society while not being elected yourself (idem: 105). In his definition, the people in a democracy who are not elected themselves should have the same political power and influence on politics.

It is therefore that he goes on to argue that most contemporary societies people nowadays call democratic are, by his definition, not democracies but polyarchies. In a polyarchy, as defined by Robert Dahl and Charles Lindblom (idem: 105) government is responsive to its citizens but not to *all* its citizens like it would be in a democracy. There is a group which has more influence and is therefore the privileged group. All people are able to vote, in most polyarchies, but the privileged group has other ways of influencing the elected government.

This privileged group, which Schweickart calls the capitalist class, has different ways of influencing the elected government. Campaign contributions are an example of direct political influence (2002: 106). More indirect, the capitalist class tries to influence the public opinion by raising and funding think tanks and foundations. With the help of mass media ideas, which endorse capitalist interests, are spread (idem: 108). The biggest influence comes from capital itself in the form of ‘investment strikes’ which happen almost automatically when governments implement policy which is not in line with business interests. When investors, the people or corporations with capital, lose trust in the government or a national economy, they move their capital elsewhere. This causes a recession, the politicians in power get the blame for this recession and are replaced by business friendly politicians through

elections (idem: 109). The deeper problem Schweickart addresses is that everybody is part of the capitalistic system, therefore everybody depends on a stable and growing economy, and therefore it is to some extent in everybody's interest to support the capitalists interests (idem: 110).

1.2.3. The Environment

When talking about the environment Schweickart comes up with three issues which should be considered: overpopulation, food scarcity and pollution. In the case of overpopulation and food scarcity he is optimistic in the sense that the solutions to these problems are in his mind relatively feasible (2002: 116). When it comes to pollution however, he is less optimistic. The biggest contemporary problem of pollution are carbon dioxide emissions and global warming. The easy solutions would be to stop investing in oil and oil-related industries, set strict emission limits, create carbon taxes and invest in development of clean energy technologies (idem: 117). The problem is that in a capitalistic system, these solutions are not easy at all. Schweickart lists three characteristics of capitalism which are problematic in relation to the environment: its expansionary dynamic, wage labour and the tendency to crisis, and the mobility of capital (idem: 122). All three characteristics drive economies to keep growing, therefore producing more and as a result polluting more carbon dioxide. Because business needs to grow, ways to expand their markets and therefore ways to sell more are always looked for. Businesses start to export abroad but also look for laborers abroad because they are often cheaper and therefore cost reducing. Poor countries try to attract global business and therefore get involved in global capitalistic economics (idem: 123). So because it is an intrinsic force within capitalism to keep growing, capitalism tends to expand globally. With global capitalism comes global inequality and a global privileged minority which is harder to control by domestic governments.

This is where the problem of (lacking) democracy again comes into play. The capitalist privileged minority with disproportionate political influence has no incentive to alter the system (idem: 118). Especially when it comes to big energy companies. The energy industry is of major importance to the rest of the economy because it supplies producers with the energy to produce their products. Therefore, the energy industry itself relies on an economy which keeps producing and therefore demanding energy. A global economy where less is produced is not beneficial for energy companies because energy companies themselves are active in the capitalist system and therefore need to grow. Therefore, environmental solutions like emission limits and carbon taxes are destructive for energy companies which

operate in fossil fuel. Energy companies with political power will use their power to keep these solutions from happening.

1.2.4. Social ecology

Schweickart's vision on the environment, society and capitalism is comparable with Murray Bookchin and his theory on social ecology. Schweickart describes the basic economic system and how human beings are active in it as: "human beings [who] interact with nonhuman nature to produce the goods and services that human beings desire. Human labour utilizes nonhuman means of production to generate products" (idem: 22). Bookchin however points out how the differentiation between 'humans' and 'nature' is not only incorrect but also one of the reasons why humans have a negative impact on their natural surroundings.

According to Bookchin all ecological problems faced today are a consequence of social problems. Humans are the product of a long development of evolution and are in essence a product of nature, they do not stand next or apart from nature (2006: 25). The 'first nature' of humans is their instinctive drive rooted in their biological evolutionary history. Their 'second nature' is the ability to create things which seem unnatural, like societies, cities, science or technology, which can be called the human social nature. This second nature is however not unnatural. It is also the product of evolution as it stems from humans first nature which over time created humans complex brain or ability to build tools with their hands. Regarding human behaviour and human society as unnatural is "to ignore the creativity of natural evolution itself and to view it one-sidedly" (idem: 27).

So there are two natures: a biotic and a social nature. Both however are driven by evolution, they are interlinked. Humans' social nature drives them to alter their natural world in their advantage. Here humans do not differ from any other animal altering their natural surroundings to their advantage like birds building a nest or beavers building a dam (idem: 29). The only difference is the fact that humans have the ability to foresee, to anticipate: "Animals adapt to the world around them; human beings innovate through thought and social labour" (ibid). Thought and social labour create social institutions which hold human societies together. These social institutions, or humans second nature, is subject to change and diversity. The consequence is a variety of human social institutions which than clash and/or create differences (idem: 31).

The consequence, according to Bookchin, are societies with hierarchy and class differences. Not only began humans to differentiate themselves from each other but also from their surroundings. 'Nature' became something outside of the human community and

something which could be dominated (idem: 38). After the industrial revolution, the economy was an industrial capitalistic one driven by what Bookchin calls the motivation of “grow or die”. Capitalists needed to expand in order to survive: “ Each capitalist, in short, must try to devour his or her rivals – or else be devoured by them” (idem: 42). However a capitalist tries to incorporate ecological friendly measures, being active in a capitalistic economy means you have to grow and therefore deplete your ecological surroundings (idem: 43).

Just like Schweickart, Bookchin proposes a community based economic system; communalism. He wants to *municipalize* the economy (idem: 102). Production and trade should be done on the local level, within the municipality. Production would only occur for usage of these products, not for profit. Every municipality as a local assembly which oversees the activities of the local enterprises. In this way, work life and private life become one. Within the assembly people are therefore not political active as workers but as citizens. On the national level, independent municipalities should work together on a confederal basis.

This is where Bookchin and Schweickart do theoretically drift apart. Schweickart goes a step further, as we will see in the next section, by proposing a national investment fund which on the national level should prevent inequality between communities or municipalities. The economic integration between the municipalities goes further in Schweickart’s theory of Economic Democracy. Next to that, in Schweickart’s theory there is still a market where profits are made, although these profits are used differently compared to capitalism.

1.3 The basic model of Economic Democracy

Schweickart wants to show that an alternative for capitalism is possible where the structures, which are the root of the negative consequences, are altered and do not cause new negative consequences (idem: 45). Just like Schweickart defined Capitalism with three basic features, he also defines his successor-system Economic Democracy with three basic features. One of the features of capitalism, a market for goods and services, is also a feature of Economic democracy. As Schweickart argued before, a market is not a synonym for capitalism. The two other features of capitalism, privately owned means of production and wage labour, are altered in Schweickart’s model. He proposes worker self-management and social and democratic control of investment (idem: 47). This paragraph will discuss the three features of Economic democracy more broadly. The next section will explain how Schweickart thinks capitalism could alter into an Economic Democracy.

1.3.1 Worker self-management

In an Economic Democracy, enterprises are not run and owned by a boss (or a small group of investors) but the workers are the ones to run the enterprise. An enterprise is not a thing but a community (idem: 49). The workers are responsible for how the facility is operated, how much will be produced and how the proceeds will be distributed. It is not necessary that the proceeds are distributed equally, as long as the distribution process is decided upon democratically. In big enterprises it is most likely that workers will choose a council, on the basis of voting, who will then appoint a chief executive or management (idem: 48).

The enterprise is not owned by the workers; the means of production are owned by society. Each enterprise pays a tax on their capital assets. The money raised from this tax goes into a national investment fund which is also controlled democratically. Next to that, enterprises have to maintain a depreciation fund. Money must be set aside in this fund to finance replacements, repairments and other costs which workers deem fit (ibid). Workers are not tied to the facility they work for, they can leave at any time and seek work elsewhere. They cannot sell of their capital assets when they leave. If you are part of an enterprise, a community, you get certain rights. These rights are lost when you leave the enterprise, but you will get new ones when you join another enterprise (idem: 49).

1.3.2. Market for goods and services

Just like in most contemporary real-world capitalistic economic systems, in Economic Democracy there is a market for goods and services where prices are mostly determined by demand and supply (idem: 49). Schweickart agrees that markets are better systems to create fair prices and incentives for innovation than central planning by a government (ibid). Enterprises try to make a profit and therefore try to make more sales than costs. The difference here is that labour is not seen as a cost. In an Economic Democracy, labour is a residual claimant instead of another cost of production. Once all other non-labour costs are paid, what is left of the profit of the enterprise will be distributed among the workers. So in Economic Democracy, the efficiency of the market where enterprises need to be aware of what consumers want, improve their technologies and not waste raw materials, is still present (idem: 59).

While being an efficient economy just like in a capitalistic system, in an Economic Democracy enterprises have less of an incentive to reduce labour costs because there are less labour costs. The consequence is that workers are much less likely to be replaced by machines or workers who are willing to work for a lower wage (idem: 128). Next to that, the incentive

for enterprises to expand, as in capitalism, is also much less present. Because profits in an Economic Democracy are shared with all the workers, the incentive is to maximize profit per worker. Expansion means attracting more workers and therefore more people to share their profit with. When enterprises in Economic Democracy expand or take in more workers, they will only do this while economies of scale are still relevant. They will however not go beyond that point like enterprises in capitalistic systems tend to do (idem: 129).

Other structural differences in the way enterprises will behave, compared to enterprises in capitalistic systems, are size, competitiveness and monopolistic tendencies. Enterprises under Economic Democracy will only expand when technological innovations push them to, without having to lay off human workers. This means that enterprises will stay relatively small, if there is more demand for a certain product a new enterprise can emerge. There will be competition between enterprises but, because rapid expansion will be avoided and merges will only take place when economies of scale allow them to be profitable, competitiveness will be different compared to capitalistic competitiveness. As will be seen in the next section, buying other enterprises out is not possible under Economic Democracy. Therefore monopolistic tendencies are also less present (idem: 130).

1.3.3. Social and democratic control of investment

In a system of Economic Democracy there is no private investment. All investments will be done publicly via a national investment fund which is financed through the tax on capital assets of enterprises which is a flat rate tax (idem: 50). The national investment fund is meant to push innovation and support enterprises or regions who need it. Who needs what is decided by society. Schweickart theorizes about two extreme ways this could be managed. On the one end he suggests a ‘democratically accountable planning board’ which would discuss and decide where investment is needed (idem: 50-51). On the other extreme Schweickart suggests a network of public banks which lend out the money of the national investment fund with the same incentives that banks in a capitalistic system would have (idem: 51). According to Schweickart it would be best if a system emerged which would lie somewhere between these two extremes: “The basic idea is to allocate the centrally collected funds according to a principle of fairness first, and then to bring in competition to promote efficiency” (ibid).

So what is fairness or a fair share? Schweickart argues that on a regional level, regions should get a per capita share. So regions get their share of the investment fund based on the amount of people who live there. This is because in a capitalistic system, capital attracts more capital which increases inequality. When certain areas attract more capital, innovation in these

areas is also pushed harder compared to areas which attract less capital. Over time the areas which attract the most capital will also develop faster and attract even more capital leaving other regions behind (idem: 52). To prevent regions from staying behind, capital from the national investment fund will, on the regional level, be allocated on basis of per capita share.

Also in the next step, when investment in a region is allocated to communities, this will be on the criteria of per capita share. Within communities the share will be managed by public banks. When enterprises within the community are in need of more capital, they will go to this public bank. Capital provided by the public banks are not in the form of loans where repayment of principal and payment of interest is needed. The capital is granted. But because this money is in turn used by the enterprise to add to their capital asset, the money will eventually be returned to society through the capital asset tax. So indirectly interest is paid over capital granted by public banks (idem: 54).

Public banks are themselves public institutions. People who work for the public bank are paid with general tax revenues. How much capital each public banks gets from their local legislator is firstly based on how much enterprises this bank serves and the size of these enterprises. Secondly it is based on past performance. Performance is based on a bank's ability to make profit enhancing grants and its ability to increase employment in its community (ibid). Profit enhancing grants which also manage to increase employment are preferred over grants which only increase profit (56). The public banks therefore have an incentive to stimulate enterprises which are innovative and increase employment (idem: 54).

At each level (national, regional and local) there will be legislative bodies, which are democratically chosen, who will decide how their share will be allocated. Money from the national investment fund is also needed to invest in public goods. Each level therefore has to decide which part of their share is needed for public goods and which share can be passed to the next level (idem: 55). Because people who work for the legislative bodies are democratically chosen, they have to make a balanced choice between public spending and investment in their regional or local enterprises (idem: 55-56). Schweickart theorizes that because communities get a fair share and capital does not flow to one region of a nation, communities will be more stable. This is because the young and talented do not feel the incentive to leave their community and seek work in the more capital rich regions of a nation (idem: 65). Another possible consequence Schweickart notes is the revival of local politics. Because every community gets their fair per capita share, local politics have to worry less about capital flowing out as a consequence of their decisions. Therefore local politicians are

allowed to think more creatively than capitalism would allow, which could increase the incentive of community members to become politically active (idem: 152).

In terms of ecology and consequences for the environment Schweickart argues that a big difference between capitalism and Economic Democracy is that capitalism needs growth, Economic Democracy does not per se. The main incentive of enterprises under Economic Democracy is to keep in business, not to expand. Next to that, because investment is controlled socially and democratically, decisions on investment which are in favour of the environment can be taken without too much worry about capital flight (idem: 157-158). Schweickart notes that it is not sure that societies will always move towards decisions which are good for the environment. Decisions are managed democratically and if the majority of society does not care for the environment, improvements in that area will less likely be made. However, in an Economic Democracy there is no need for endless growth whereas in capitalism there is (ibid).

1.4 The first steps towards Economic Democracy

In order to go from a capitalist economic system to an Economic Democracy Schweickart proposes a list of possible first steps. When describing these steps Schweickart envisions a “advanced” country, in this case the United States (idem: 168). But before these first steps can be taken, people within a society must be open to and ready for these changes. There needs to be a sense amongst people that something needs to be changed. A sense “that we are faced with a collective task that will require the combined efforts of masses of people in all walks of life, and that will, if successful, change the world” (idem: 179). Different groups of people need to collect themselves to start a counter-project to existing social and institutional power structures. This could be on the basis of economic principles (e.g. labour movements) but also on principles which have to do with ecology, gender, racial equality, peace, sexual rights etc. (idem: 177). Because the capitalist class not only has economic power but also political power, Schweickart links movements who struggle against economic power structures with all movements who struggle against existing power structures in society (idem: 178).

Once all these movements feel that their issues need to be fought for collectively, the counterproject can gain weight and elect a more radical leftist party which is willing to make structural changes. A severe economic crisis could be a last trigger to convince people to vote for the leftist party (idem: 177). Once this leftist party is in charge, they can start making structural changes which would move a capitalist society to an Economic Democracy. Schweickart proposes the following:

1.4.1 Democratizing labour

In order to push for an economy based on worker-run enterprises, Schweickart does four proposals to support workers who want to start their own worker-run enterprise or change an existing enterprise (idem: 168). Firstly there needs to be “public financial and technical support for producer cooperatives and for worker buyouts of capitalist firms”. When an enterprise is struggling economically there is a window of opportunity for workers to take over the enterprise. Also because this ensures employment within the community will not decline (ibid). Next to that there is a need for “legislation mandating or at least encouraging more worker participation in capitalist firms and profit sharing”. Workers in the United States are already able to buy stock from the enterprises they work for. Further legislation is needed to ensure power and control commensurate to their share (ibid).

In line with these proposals Schweickart proposes in a later article to develop “Legislation giving workers the right to buy their company, if they so choose” (2012: 249). An example of such a law could be that when a majority of the workers wants to take over a limited liability company, a referendum needs to be held. If there is a majority in favour of taking over the company a labour trust is formed which will slowly buy the shares of the company on the stock market until it has a majority and a leveraged buyout can take place (ibid). Lastly Schweickart proposes “Legislation stipulating that, when a major corporation goes bankrupt, but is bailed out by the government, the government should nationalize the company and restructure it as a worker-self-managed enterprise” (idem: 250). Instead of replacing the board of directors with new directors and bringing the enterprise back to the stock-market once the enterprise is profitable again, the board is replaced by a democratically chosen workers council and profit is shared with all workers (ibid).

1.4.2. Social control of investment

One of the key principles of Economic Democracy is to replace private control of capital and investment with social control. Through social control Schweickart predicts that economic and political power will be distributed more equally instead of being in the hands of a small elite. In his 2002 book as well as in later articles Schweickart has several proposals as to move to social control of investment. The in his words “least controversial” first step could be an environmental legislation (2002: 169). For instance a green tax which redirects investment flows to green business which is, according to Schweickart, prioritized in society. So here he assumes that economic sustainability is an issue important to society but something which is

not represented in current investment flows. Another tax regulation which Schweickart proposes is one which discourages “the rapid, speculative, destabilizing movement of massive amounts of funds from one market to another” (ibid). In order to gain control over national investment flows, the influential inflow of foreign investment needs to be controlled and slowed down.

Next to taking control over investment flows, certain financial institutions need to be democratized. Schweickart proposes the “democratization and reregulation of the banking system” (ibid) where national banks become more accountable to the electorate and local banks to their communities. Instead of individual consumers being dependent on business investments and loans with high interests, “community-based public banks” should take over the role of providing credit with the creation of employment as a priority. A possible first step in that direction could be to create public banks next to the already existing private banks to compete with each other. The hope is that consumers will eventually prefer the public bank which is committed to creating employment (2012: 250). Schweickart also proposes the democratization of pensions funds, where these funds become more inclusive and investments are “socially responsible” (2002: 169).

Lastly Schweickart argues to replace the corporate income tax with the earlier mentioned capital assets tax (2012: 251). This would create more employment because companies would not be taxed for the labour they use but for their used capital. This would create a shift within companies to attract more labour instead of attracting more capital. Next to that it would also make corporate tax avoidance less easy. The first step towards this corporate income tax would be a tax base that “would be the share price on January 1 of the tax year, multiplied by the number of outstanding company shares, that total multiplied by the fraction of sales the company made” in their country (ibid).

1.5 The Preston Model

Schweickart’s theory of a more community based economy is in line with what Guinan and O’Neill call ‘community wealth building’ which is “a local economic development strategy focused on building collaborative, inclusive, sustainable and democratically controlled local economies” (2019: 385). Community wealth building is an umbrella term for different strategies to strengthen local economies through initiatives like cooperatives, community land trusts and local banks (idem) and can be placed in what Schweickart calls the counter project against capitalism. The idea behind community wealth building is that people take power to develop their own community while increasing democracy. Instead of seeing the economy as

something separate from democratic institutions, democracy needs to be embedded within the economy (idem: 387).

A well-known example of community wealth building is a British city called Preston, with councillor Matthew Brown as one of the main thinkers behind what is now called the Preston Model. The Preston model is an example of the kind of initiatives needed to move towards Economic Democracy. It fits in with what Schweickart has called the counter-project and shows how communities can grow and develop when economic policy is shifted to the local level. By producing and consuming locally, the local economy thrives.

Preston is a city in Lancashire which has a high rate of poverty and voted in favour of Brexit (Tegenlicht 2019). In 2013 the local council decided to make use of the big local institutions like the University of Central Lancashire and Lancashire Constabulary and asked them to buy more products from Preston-based companies. Six of these big institutions had a combined budget of 1 billion pounds but very little was spent locally before 2013 (Eaton 2018). Since 2013, the share of public procurement budget spent in Preston has gone from 5 to 18% and in Lancashire itself from 39 to 79%. Meanwhile, local cooperative production is supported through the Preston Co-operative Network, and councillor Brown has ideas for a local Lancashire bank which could invest in local business. Unemployment has gone from 6.5% in 2014 to 3.1% in 2018 (ibid).

The rise from 5 to 18% public procurement budget spent locally gained 75 million pounds which were spent locally instead of going to multinational companies with headquarters in London. This type of economic change could be seen as a form of protectionism within the open market policy of the EU. But the effects of this European open market have had negative consequences on the local Preston economy. As head of the Preston food coop Kay Johnson explained: “we got an example where one of our farmers, he was telling me the other day, that 70% of his cauliflowers go outside Lancashire. And sometimes cauliflowers are coming into Lancashire from France. Because they might be one pee cheaper. So they are kind of passing on the motorway. So we want to create a system where it makes easier for the farmers to be able to sell more locally. Because they want to” (Tegenlicht 2019). With the Preston model, Preston not only took back economic power within the UK but also within the EU. According to Brown it remains to be seen if Brexit could be a push factor for British communities who want to gain back local economic control or if Brexit frees the way for even bigger non-EU companies (ibid).

Chapter 2: Energy Democracy

This chapter will provide an explanation of the Energy Democracy movement. The movement tries to confront existing power relations within the energy production and ownership system. Energy Democracy tries to go from a centralized corporate energy system to local community based energy production and ownership. This chapter will start with explaining how energy, economics and politics are linked with each other, throughout modern history and nowadays. Through this explanation it will become clear why the way energy is organized in society has a significant influence in society. After that, it will be explained what the Energy Democracy movement is, and how this movement tries to alter society through altering energy structures.

2.1 Energy economics

The Energy Democracy movement tries to alter the economic and political system through altering the energy system in society. This section will make clear how energy has been key to economic systems. The main point energy economists make is that in everything a society produces, energy is needed. Energy as a source to fuel machines to produce, vehicles to transport, shops to run etc. Therefore, how energy is captured, and the amount of energy there is within a society, has influence on how much a society can produce. The link between the economy and energy is elaborated here because in order to change capitalism, according to ecological economists, the energy system needs to be changed. To produce and transport products energy is needed. How much energy a society has at its disposal and how it is distributed therefore has implications for the internal workings of an economy.

2.1.1. Energy surplus and development

According to Hall and Klitgaard (2012), who propose a different view on economics, the role of energy is essential in economics. They see energy as the main driver of the economy. Hall and Klitgaard argue that economics should be treated as *biophysical economics*: “ (...) a rather imperfect but growing approach to economics that is based upon the recognition that wealth is fundamentally generated through exploitation of natural resources (idem: 203). In everything humans historically have produced, energy was essential. To produce food and products, transport these products and humans themselves, to light and warm houses etc. energy is needed. Who owns the sources of energy is therefore powerful.

“In all cases a biophysical analysis shows that it is the energy that does the actual work in turning raw materials into useful goods and services. Therefore, although we agree that many factors contribute to the production of wealth, the critical element is and always has been energy. Without energy there would be no economies or economics because there would be no goods or services produced or moved from place to place or through markets.” (idem: 8).

As the human species developed they learned new ways of capturing energy. Richard Heinberg has identified five strategies of capturing and using energy throughout history: take over, tool use, specialization, scope enlargement and drawdown (idem: 99). With take over Heinberg means that humans started to use land in their own advantage and cultivate it. They used the land for food for other species which helped humans in their survival (horses and cows) and to grow food for themselves. Over time humans started to use more and more land for agriculture, at the expense of existing nature and ecosystems. Humans also domesticated animals which were stronger and had more power i.e. more energy.

The second strategy identified by Heinberg is tool use. You could also call this the technological development. First humans developed tools like spear point to help with the hunting process (idem). By using a spear point less energy is needed to kill an animal compared to trying to catch animals barehanded. Through time humans kept developing and inventing new tools and technologies to capture food and energy and use it more efficiently..

The next strategy used to capture and gain energy is scope enlargement. More land means more solar energy captured. Through taking, stealing, war and colonization humans took the solar surplus of others and enlarged their energy surplus (ibid). With trade, as explained by David Ricardo through comparative advantages, societies could specialize in products with the highest return on energy investment. By trading commercial societies could enlarge their markets and therefore the scope of used energy (ibid).

Lastly Heinberg describes the strategy of drawdown, in this case meaning the drawdown of fossil fuels like oil, coals and natural gas. By using the previous strategies, the human species had developed technologies to capture and use fossil fuels which subsequently increased the ability to exploit nature and its resources significantly compared to solar energy (idem: 100). When the age of oil began, roughly around 1800, the world inhabited about one billion people. 200 years later there is a global human society of 7 billion people which is able to produce enough food to feed and sustain itself (ibid).

2.1.2. The case of Sweden

An interesting historical case to illustrate the connection between energy and economics is Sweden. In his research Sundberg (1992) shows how the rich forests of Sweden, and how these were protected, were the main driver behind its economic development between 1560 and 1720. This development pushed Sweden from being a poor and rural country to one of the most powerful countries in Northern Europe. The wood gained from the forests in Sweden was used to create charcoal which was then used to smelt silver, copper, and iron ore. These metals could then be used to make weapons (idem: 57). During the period of 1560-1720 Sweden was almost constantly at war and with relatively cheap metal production weapons could be made cheaply compared to Sweden's competitors (idem: 53).

Because the Swedish king Gustav I Vasa (1523-1560) was one of the first European kings of his time to recognize the importance of his forests to the economy, he held a strict control over the metal industry in order to protect the forests (idem: 65). Other countries, like England, had exhausted most of their forests for charcoal and were therefore forced to import the much more cheaper steel from Sweden (idem: 55). Norway, which also had a natural resource of useful forests and exported to England, also slowed down its wood industry by a royal decree to avoid deforestation in 1688 (Van Bochove 2008: 177). In 1720 there came an end to the Swedish political dominance in Northern Europe because of a lost war with Russia. However, Sweden's charcoal-based steel industry remained important. This only changed in the 19th century when the coal based steel industry in Germany's Ruhr valley and the English Midlands began to produce metals on a much larger scale (idem: 54). It was also during this time many Swedish people began migrating to the United States (Hall and Klitgaard 2012: 63). This case illustrates how the insight by the Swedish king to protect its source of energy resulted in economic prosperity for a long time. This was only changed when fossil fuels were discovered and used on a large scale.

2.1.3. The impact of fossil fuels

This section will explain how the discovery of fossil fuels changed the economic system in Europe and Northern America. Fossil fuels proved to be a much more effective source of energy compared to wind, wood, animal or human power. With the discovery of fossil fuels, and the development of technologies to use them, humans were able to do more and more work in less time. This also meant an increase in food production and therefore an increase of energy (idem: 72). "This transition entailed the transformation of a primarily local and regional economy utilizing local natural sources of energy into an economy based on large-

scale industry, mass production, and the use of fossil energy, generally derived from far away” (idem: 54). The switch to fossil fuels started in Europe. But the industry with its machines running on fossil fuels still needed raw materials for their products, like cotton to make clothing. With colonization European countries could use land and human labour abroad to fuel their fossil fuel based industry. In this way, the rest of the world also got impacted by the fossil fuel revolution in Europe (Mitchell 2013: 16).

After the Civil War the United States industrialized rapidly and transformed into a large-scale nationwide economy based on oil run machines and factories (Hall and Klitgaard 2012: 158). This caused overproduction, low prices, falling profits and therefore the risk of bankruptcy. Because of intense competition during the period between 1870 and the 1930’s, companies started to merge and buy each other out and form monopolies. The American economy became characterized by concentrated industry and big corporations. Hall and Klitgaard point out that this transformation was made possible because of the existence of cheap and abundant oil (ibid). Every time a new location was found with oil, oil prices dropped and this resulted in a recession.

The discovery of fossil fuels also pushed the development of other technologies such as electricity and cars. These developments, amongst others, pushed production levels. The United States kept producing, but demand at the end of the 1920’s did not keep up. Declining demand combined with the rising stock market created the economic bubble which burst would eventually lead to the Great Depression of the 1930’s (idem: 157). Only during the Second World War and after did the American economy recover. Compared to Europe the American economy and military was strong and stable after the war. Corporations started to expand beyond the American borders and wages increased which made it possible for workers to increase consumer levels (idem: 187). Fossil fuels were cheap in the United States and its citizens could enjoy what they called the ‘American Dream’.

This changed in the 1970. The United States domestic oil production hit a peak and started to decline. The impact of this was really felt during the oil crisis of 1973 and 1979 and the period of stagflations which was triggered by these. Hall and Klitgaard point out that some economists during the 1970’s already learned what they state nowadays: “real growth is based on growth in real resources, and that there are limits to those resources” (idem: 327). After 1980, during the years of president Ronald Reagan, the economic focus shifted towards a belief in deregulated markets, small government and low taxes which busted the American economy but also resulted in rising inequality and the rise of debt. This rising debt burden and its price would hit a peak in 2008. All during this time, economic recessions were almost

always linked to rising oil prices. In a thriving economy oil prices would slowly rise until a recession was inevitable, then oil prices would decrease due to the recession and the cycle would begin again. This shows that apart from the economic doctrine held by a government, oil and its price will always have a big impact on the economy (idem: 188).

2.2 Energy and politics

How production, ownership and trade in energy is organized also has political implications. To illustrate the link between energy and politics since the industrial revolution, a distinction needs to be made between coal and oil, particularly in their transportability. In this section it will firstly be explained how the more heavy and bulky coal was a push for democratization in the 19th and the beginning of the 20th century. After that it will be explained how the more lean and light oil would change political power dynamics again in the 20th century. This section will show how energy has an impact on political power structures as well as how political elites have tried to influence to supply and distribution of energy. Through this explanation it will become clear how energy is linked to the political sphere in society, and how changing the energy system has implications for the political system in society.

2.2.1 Coal and democratization

Timothy Mitchell (2011) links the democratization of Europe in the 19th and 20th century with the process of industrialization and the use of coal. In the beginning of the industrialization process, the industry was mostly dependent for its energy on the burning of wood. For this process a significant part of the population was needed to grow, cut down, transport and burn the wood. With coal, much less material was needed to create the same amount of energy. Therefore, much less people were needed to produce and distribute the energy the industry needed (Mitchell 2011: 18-19). The high-quality coal needed for the growing industry was found in only a few places, like the Ruhr Valley in Germany, the English Midlands and the Appalachian in Northern America. Coal proved to be the commodity needed to boost steam technology which was on its part a boost to the iron and steel industry. With these metals, railways could be made. The economy became dependent on coal for energy and railways for transportation (ibid).

Europe and Northern America now had developed economies wherein a relatively small portion of the population, people in the coal and railway industry, had a big impact on the whole economy. When disruptions within these industries took place, it had an impact on the whole nation. Strikes therefore became a powerful political tool (idem: 19-20). Strikes by

coal miners were particularly effective because all industries relied on their work. The concentration of energy therefore meant a concentration of power. With strikes, labour workers could enforce higher wages and better working conditions.

Since the second half of the 19th century, versions of representative government had emerged in Europe and Northern America. People who were able to vote were men who had property (land, slaves, servants etc.) and therefore had power within the economy. These property owning men argued they also had a right on political influence because of their powerful position within the economy (idem: 17). The battle for more representation by the elites created the constitutional arrangements and therefore legal order needed to create political parties and labour unions (idem: 18). Now coal miners could use the same argument and also rely on their impact on the economy to push for political change. Over time, coal miners joined forces with dock workers and labour workers in the steel and iron industry to create 'general strikes' (idem: 23). Between the 1880's and the interwar periods, labour workers in these industries used their power to create voting rights, the right to form labour unions and to create political parties (idem: 26).

Labour Unions have been described by many social scientist as a driver behind democratisation within the context of capitalism. Huber, Rueschemeyer and Stephens for instance show in their research how the growth of the non-agricultural workforce and therefore the growth of labour unions altered power relations in society in Western European countries at the end of the 19th century in the favour of democracy (1993: 76). Because of capitalist development, more labour workers were needed in the industry and class structure is altered. Labour workers became a bigger part of society and through creating labour unions gained more power. Mitchell adds another dimension to this research by showing how the discovery of coal helped labour workers (and especially miners) to gain power through their special position in the industrial chain. Coal was not only one of the reasons for economic development but also for democratisation because of its suitability for strikes.

2.2.2 Crude oil and power shifts

This power dynamic changed when crude oil was converted from a source for illumination to a source of energy for machines and internal combustion engines in the 20th century.

Compared to coal, oil needed an even smaller workforce to produce it and transportation could be done with pipelines instead of railways. This meant that along the way of getting oil to the consumer, less people were needed and less interruptions by human actions could take place (idem: 36). Next to that, because oil is fluid and light compared to coal, it is way more

suitable for shipping. During the 20th century, about 15% of coal was shipped abroad worldwide compared to 60 to 80% of oil. This made it suitable for international trade. The oil business first became significant in the United States but expanded globally over time.

Because the trade and use of oil became an international business, this business could operate outside of the territories of democratically governed countries. Some shipping companies could even escape all labour rights and taxes by registering their ships in countries like Panama or 'flags of convenience' (idem: 38). International trade in oil through the use of oil tankers became so flexible that ships sometimes did not know yet where their final destination would be when setting off. So when a country of destination had disruptions of any kind, a labour strike for instance, an oil tanker could just change destination. Compared to the movement of coal, oil movement is flexible and less vulnerable to its labour workers who may have political demands (ibid).

Because oil trade became so flexible, the arrival of new cheaper oil from elsewhere was always present and competition between oil companies increased. American oil companies needed a way to keep up their profits. A solution for this problem was, on the one hand, limiting the supply of oil and on the other hand making all of society dependent on oil (idem: 39). Limiting the supply of oil was firstly done domestically in the United States by controlling all parts of the production process and in this way controlling the supply. Later on, from the interwar period and forward all sorts of regulations were created to limit the supply. From quotas and price controls to "cartel arrangements to govern the worldwide distribution and marketing of oil, consortium agreements to slow the development of new oil discoveries in the Middle East, and political agencies to manage the threat of those in the Middle East and elsewhere who opposed the oil companies' system of sabotage" (idem: 40).

After the Second World War, the United States supported European countries with the European Recovery Plan (ERP) also known as the Marshall Plan. One part of the ERP was to change the European coal market. The European Coal and Steel Community was established as a first step towards European integration and political union. This integration, with financial help of the United States, helped the mechanisation of coal production and therefore decrease the influence of the coal miners (idem: 29).

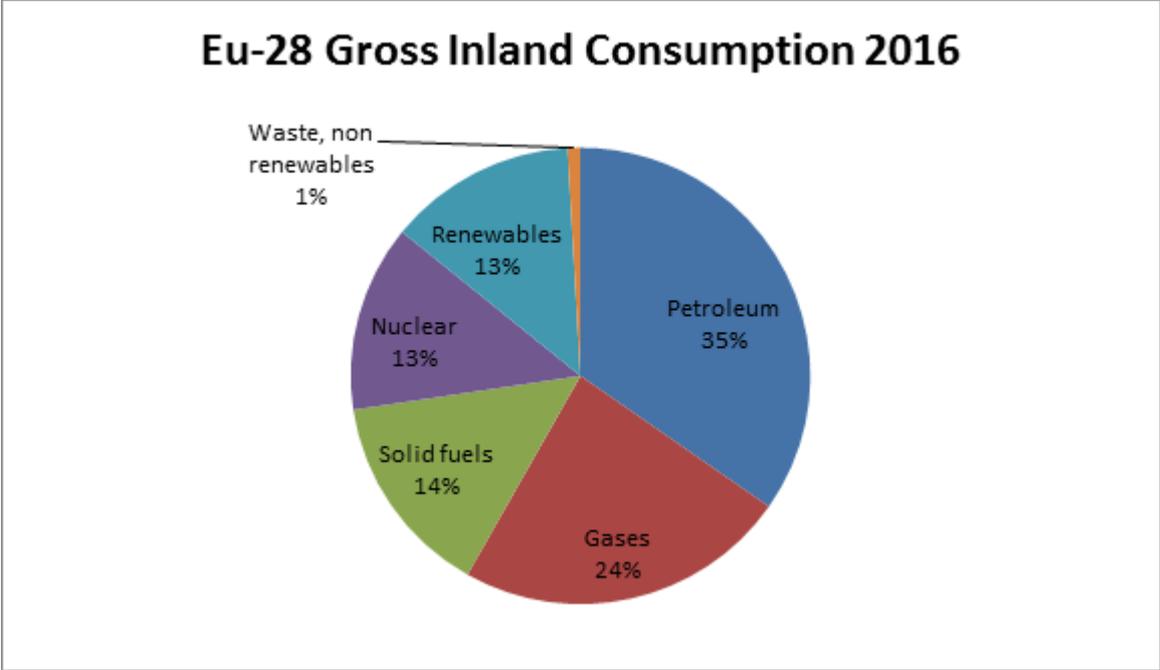
Another part of the ERP was to convert the European market from being dependent on coal to being dependent on oil. The United States helped fund the industry and infrastructure needed for producing and distributing oil. It pushed for creating more roads and boosted the European car manufacturers (idem: 30). Next to that, a pipeline was built from Saudi Arabia to the Mediterranean. But because oil from the Middle East was cheaper to import to Europe

than oil from the United states, an oil price plan was set up. Oil from the Middle East was to be bought at the same prices as US oil. To secure the dollar as the international financial currency, 10 percent of ERP funding dollars were used between 1948 and 1951 to purchase oil from the Middle East for Europe. In 1948 only 10 percent of the European energy was oil, in 1960 it was a third (ibid).

After the oil crisis of the 1970’s it became apparent to oil producing countries how much power the oil industry had internationally. This was a push for countries to (partly) nationalize their oil companies and was the first step towards the modern national oil corporation. Later on gas producing countries would follow this example (Sundaresan 2012: 389) like for instance Gazprom in Russia, which is mostly state owned. In the contemporary fossil fuel industry governments and state owned enterprises own about 70% of oil and gas production assets and 60% of the global coal mines and coal power plants (Prag et al. 2018: 11). Governments and the fossil fuels industry are still dependent on each other which shows how much the national political sphere and energy are still intertwined.

2.2.3 Contemporary energy use and politics in Europe

Nowadays Europe is for its energy supply still largely dependent on fossil fuels like oil and gas. According to data from Eurostat (2018), 58% of the energy consumed in Europe in 2016 was either oil or gas. Another 14.7% came from solid fuels, which next to wood and corn also includes coal. Only 13% came from renewable energy.



Source: European Commission 2018: 22.

When we look at imports, Europe was for 87% of its oil supply dependent on imports in 2016. For gasses this was 70% and solid fuels 40%. The main supplier of oil, gas and solid fuels for Europe is Russia. With all three fuels Russia delivered more than a third of Europe's consumptions. Other big non-EU suppliers are Norway (oil and gas), Colombia (solid fuels), Iraq (oil) and Australia (gas) (idem: 26).

Since the oil disruptions of the 1970's, Russia has become a important supplier of fossil fuels to Europe. Since then, multiple pipelines have been built to provide Europe with energy. The Ukrainian pipeline system was built during the cold war, a pipeline through Belarus and Poland in the 1990's and the Nord Stream pipeline which goes through the Baltic sea and Germany in between 2005-2011 (Siddi: 2016: 109). Since 2018 Russia's Gazprom, together with other international investors, started with the construction of a second Nord Stream pipeline. The announcement of the building of this pipeline resulted in political disagreement between European countries. France, together with many East European countries were worried about the European dependency on Russia when it comes to energy. According to these critiques, another pipeline would give Russia too much power (Koenis 2019).

Earlier in the 2000's it became apparent how Europe's dependency on Russia could have significant consequences. Two times during the 2000's Europe experienced the consequences of gas disputes between Russia and Ukraine. At the time, 25% of gas consumed in Europe came from Russia. 80% of that gas came to pipelines going through Ukraine (Lee 2013: 587). In 2004 the Ukrainian Orange Revolution took place which meant that Ukraine took a more pro-NATO and pro-EU political stance. As a consequence, Gazprom started to increase gas prices for Ukraine. This resulted in disputes between Moscow and Kiev in 2006 and 2009, and in disruptions of the flow of gas to Southern and Eastern European countries, which had significant consequences on their economies (Siddi 2016: 109-110).

Now that we have seen how historically energy, economics and politics have been intertwined we will turn to how the Energy Democracy tries to alter the contemporary energy structure and linked power dynamics. Energy Democracy tries to influence economics and politics through changing the way energy is organized in society. By increasing the power of local communities through stimulating local energy production, Energy Democracy tries to alter power relations within society by increasing local power and decreasing centralized and corporate power. The next section will explain what Energy Democracy is and how democracy is linked to local energy production.

2.3 Energy Democracy

There is not one clear definition of Energy Democracy. Different participants within the movement and scholars writing about the topic have used different criteria and definitions. When conceptualizing ‘Energy Democracy’ Szulecki makes a distinction between the descriptive and the normative concept. The descriptive concept describes examples of “decentralized and mostly bottom-up civic energy initiatives” (2018: 23). It outlines what initiatives have already been taken within the movement and which common denominators can be found. The normative concept of Energy Democracy points out the normative goal people within the Energy Democracy movement have to move towards decarbonization and democratic energy systems. It outlines how a future energy democracy should take form other than the descriptive concept which describes what already has been done. This section will first outline how different scholars formed a normative concept of Energy Democracy. Next it will describe how Energy Democracy has been associated with different forms of democracy. Lastly it will give an explanation of how local energy cooperatives fit within the normative theory.

2.3.1 The normative concept

In their research on Energy Democracy literature, Van Veelen and Van der Horst have found two key points which underpin all articles written about Energy democracy: (1) through opening up the energy system and making it more accessible for citizens or small initiatives to engage in energy production, the whole economy and society will become more inclusive, equitable and less dependent on carbon. The energy (electricity) grid should have a wider access and structures for ownership should be broadened. (2) Political power and decision making should be transferred to the local level as much as possible. There should be more cooperation and self-organisation on the local level to give citizens the opportunity to decide what happens in their local communities on as much issues as possible (2018: 26).

When talking about ‘political power’ and ‘economic power’ it is thus meant that power which was first executed by political elites on the international, national or regional level now is transferred to the local level. Decisions made on the international, national or regional level are now made locally. Instead of a national government deciding on all aspects of energy production and distribution, local citizens or initiatives take some of that power and decide for themselves how their energy is produced and distributed. When talking about ‘economical’ power it is meant that power over the energy system which was first executed by big energy corporations now is transferred to local initiatives. Instead of a big (multi-)

national energy producing corporation controlling the supply and price of energy, local initiatives produce their own energy and determine the price. Instead of (multi-) national energy corporations influencing international and national energy policy, local energy initiatives create their own policy. By decentralization of the energy industry, a decentralization of power also takes place.

Recognizing that renewable energy technologies enable new forms of local production and ownership, the movement tries to shift power from the corporate and centralized energy sector to workers, households and communities (Burke and Stephens 2018: 79). Renewable energy technologies are suitable for local energy production. As opposed to coal or oil, there is no raw material needed to produce energy which itself also needs energy to be transported. An argument against this could be that renewable energy technologies itself also need raw materials to be made and itself need to be transported. This is however a one time occasion and apart from the occasional repairs and replacements renewable energy technologies do not need additional raw materials or energy to be productive. Therefore the Energy Democracy is also a push in the direction of green energy consumption.

The Energy Democracy movement is motivated by the idea that the transition towards democratic renewable energy systems cannot occur without structural changes in socioeconomic and political systems. In order to move to an Energy Democracy the existing dominant systems of energy power must be confronted (Burke and Stephens 2018: 80). “Energy democracy redefines individual consumers as citizens, energy commodities and provisions as public goods, and infrastructure as public works or common resource” (idem: 79). Szulecki defines people within the Energy Democracy movement who simultaneously produce and consume their own energy as ‘prosumers’ (2018: 22). On the governance level, Szulecki (2018) adds: “(...) an inclusive and transparent decision-making process relating to energy choices, with the public good as its goal. To create and safeguard civic empowerment and autonomy, high levels of ownership of energy generation and transmission infrastructure through private, cooperative or communal/public means are necessary” (idem: 35). Private here meaning private ownership by individual households as opposed to big private corporations.

Energy Democracy tries to incorporate the transition to renewable energy within a transition to a non-market driven and more democratically organized society. By using renewable energy technologies like solar and wind technology, local communities are able to own and operate their own sources of energy. In this way, communities are no longer dependent on big energy corporations and/or energy from abroad. The Energy Democracy

movement acknowledges that national and local governments are needed in this transition. In order to move to a new energy system “large-scale coordination, redistribution and investment” is needed and therefore the government will need to take an active role in the transition. Next to that, the government itself needs to democratize and detach itself from corporate influence (Burke and Stephens 2018: 79).

Although the concept of Energy Democracy also has claims on justice, it is not the same as ‘energy justice’ or ‘environmental justice’. Energy justice has a focus on energy poverty and the right to energy access. The concept has been developed during studies in developing countries on energy policies. Energy justice is more focused on the moral implications of energy policies and Energy Democracy more on the political implications (Szulecki 2018: 25). But, both concepts have a lot of overlap and could be seen in line with each other. Or, as Van Veelen and Van der Horst put it: “(...) [energy] democracy is primarily considered to play an important instrumental role in discovering and implementing demands for justice” (2018: 20). The concept of ‘environmental justice’ has a focus on procedural fairness and was developed in the context of legal battles in local areas in the U.S. where communities felt like they faced an unequal amount of consequences due to polluting plants or waste storage. This concept is in line with Energy Democracy because it also points at the current lack of involvement of local citizens (Szulecki 2018: 26).

2.3.2 Democracy in Energy Democracy

Energy Democracy calls out for a democratization of the current energy infrastructure and sector. This sector has often been depoliticized and seen as technocratic. Energy and its supply should be left to experts and technicians. Society is only a source of demand and is not needed to think about the future of energy and its infrastructure (idem: 29-30). Energy democracy challenges this view based on the argument that people should be involved in decision making which involves their direct surroundings. Next to that, involving all stakeholders increases the legitimacy of the decisions being made and the quality. Energy Democracy argues that involving all stakeholders in decision making will eventually create outcomes which are for the common good because every stakeholder brings their own unique information and perspective (idem: 30).

With the development of renewable energy sources, proponents of energy democracy see a window of opportunity to change and democratize existing energy structures and political power structures (ibid). Some argue for owning sources and technologies for energy as a way to more inclusion and democratization, others argue that control (without ownership)

on itself is enough to democratize the energy system (Van Veelen and Van der Horst 2018: 22). The focus within energy democracy is on communities and local initiatives (idem: 21).

When talking about democracy, Energy Democracy does not talk about democracy as a procedure for society to elect elites, but sees democracy as a society wherein all citizens are politically equal. Citizens are meant to be involved in all aspects of decision making, agenda setting and preference formation (Szulecki 2018: 28). This means that democracy, for its citizens, is not a passive structure where they can elect someone to do the political thinking for them, but it is an active structure wherein citizens are involved and work within a process of deliberation (ibid). Democracy and democratization therefore means, as Van Veelen and Van der Horst put it: “a political system in which the opportunity to participate in decisions is widely shared among all adult citizens. The more comprehensive and significant these opportunities are, the more democratic a political system is deemed to be (2018: 23).

In their research on energy democracy literature Van Veelen and Van der Horst (2018) found three forms of democracy advocated for: associative, deliberative and material democracy. Associative democracy argues that as much parts of society as possible must be managed by “voluntary and democratically self-governing associations” (idem: 23). Associative democracy therefore argues for a change in all parts of society: the state, the economy and also civil society and social affairs should be managed by self-governing bodies on a voluntary basis. Because energy systems, according to energy democracy, are one of the foundations of society, changing these are a necessary step towards changing all of society.

Another form of democracy found in energy democracy is deliberative democracy. Proponents of this type of democracy argue that decisions should be made on the basis of deliberation instead of coercion or manipulation. Some proponents argue that political decisions will be more just if all people who are affected by this decision have had a change to influence this decisions i.e. all points of view have had a change to influence the process of decision making (idem: 24). This argument is based on the assumption that people are informed and to some extent free to express their opinions. A concern raised by this type of democracy is a possible inequality in resources, organization and therefore power which could lead to outcomes not beneficial for the ‘common good’ (ibid).

The third form of democracy found by Van Veelen and Van der Horst is material democracy. Material democracy points out that engagement with ‘matter’ also has implications for power and politics. In order to push for democratic values a certain level of autonomous engagement with our material surroundings needs to exist (ibid). Energy is now mostly produced by big corporations and allocation is organized on a centralized basis. Also,

as a commodity, energy has a big impact on global trade and national economies (idem: 25). By changing how energy is produced and who owns these technologies or machines, society can be changed. Energy democracy is, next to energy consumption, mainly focused on the generation and allocation of energy. It focuses on how new technologies (solar panels, windmills etc.) open up a window of opportunity for democratization in the energy system and society (idem: 24).

The Energy Democracy literature has used all three concepts of democracy but according to Van Veelen and Van der Horst draws at its heart mostly on the associative form of democracy with material democracy adding a deeper dimension. Because the movement has a focus on community control and ownership as a third way opposed to a completely privatized energy systems or completely governmental controlled energy system, it is mostly in line with the associative concept of democracy. However, because the movement also has a focus on material engagement and its political and economic implications, material democracy is a vital part of Energy Democracy.

2.3.3 Local energy cooperatives

The focus of this thesis will be on one particular form of Energy Democracy initiative being the energy cooperative. Because local energy cooperatives have a democratic structure as well as a local focus on production it transfers political as well as economic power from the (inter-)national level to the local level. Power from the (inter-)national political level and the (multi-)national corporate level. Members of the cooperative produce energy collectively and decide on a democratic basis what will happen with the profits (Angel 2016: 13). The International Co-operative Alliance (ICA) is a cooperative union which was founded in 1895 and nowadays maintains an internationally accepted definition of what a cooperative should be. The ICA has created 7 principles which form a guidance for creating a cooperative. These are:

1. Voluntary and open membership
2. Democratic control by members
3. Economic participation by members
4. Autonomy and independence
5. Education, training and provision of information
6. Cooperation between cooperatives
7. Community focus

(ICA 2019)

This type of initiative is in line with both associative democracy and material democracy. Associative because the cooperative is a self-managing association with members who have equal voting rights. Material because they actively try to change society through changing material energy structures. By altering both material energy structures and the way they collaborate, local energy cooperatives change society. The next chapter it will outline how this form of Energy Democracy has been implemented by citizens in the Netherlands. So in the next chapter the concept of local energy cooperatives will take both the form of a descriptive and normative concept.

Chapter 3: First Step Towards Energy Democracy

This chapter will outline how the Dutch Energy Democracy movement could be the first step towards Economic Democracy in the case of the Netherlands. The chapter will first outline how Energy Democracy and Economic Democracy have the same critique on capitalism (3.1). Next it will show how Energy Democracy and Economic Democracy also have, in part, the same approach towards a solution to address these problems (3.2). In section afterwards the energy history of the Netherlands will be outlined to show how this context is important for the Energy Democracy movement (3.3). Section 3.4 will talk about the current Energy Democracy movement in the Netherlands and how local energy cooperatives operate in the Netherlands. The last section will explain how the Dutch local energy cooperatives could develop to be the first step towards Economic Democracy (3.5).

3.1 Same critique

To show why Energy Democracy could be a first step towards Economic Democracy this section will show how Energy- and Economic Democracy share the same critique of the contemporary economy and society. By showing how both theories address the same problem, a better understanding can be developed as to how their solutions could be line with each other. Capitalism creates unequal power relations economically as well as politically. Where Schweickart has critique of capitalism as a whole, Energy Democracy puts a focus on what its proponents see as the main drivers behind contemporary capitalism, which are abundant energy and the way energy production and allocation are centralized i.e. modern energy systems.

As we have seen in chapter one Schweickart's main critique is focused on how private ownership of the means of production and wage labour are organized in contemporary western societies. He argues that these are the key components of capitalism and cause negative consequences like inequality, poverty, unemployment and overwork. The people who own the productive assets in capitalism can choose not to work. The people who do not own the productive assets have no choice not to work and are tied to wage labour. Energy Democracy adds another dimension by pointing out how unequal power relations within modern energy systems create unequal economic power relations. Where bulky coal proved to be a driver behind democratization, lean and easy transportable oil gave power in the hands of a small global elite and erased domestic political agency of labour workers. Owning the means of production also means owning the means of energy to fuel that production.

Next to the four negative consequences pointed out by Schweickart (inequality, poverty, unemployment and overwork), capitalism has a negative influence on democracy and the environment. Because there is inequality economically, there is also inequality politically. People with more financial resources have more power to influence politics and the public opinion. Gilens and Page for instance show how this is true in the United States. According to their empirical research economic elites have, compared to average citizens, significantly more impact on policy outcomes (2014: 576).

In a comparable study done by Schakel it is shown how in the Netherlands the minority with high income have more influence on policy outcomes than people with a low income (2019: 17). According to Schweickart a true democracy is “a system in which a universal electorate is reasonably well informed and active, and unobstructed by a privileged minority class” (2002: 106). If economic elites (i.e. privileged minority class) have more influence on policy outcomes than the democratic system does not ensure the electorate is unobstructed by economic elites. According to Schakel's findings lobbying activity by corporations are one of the main reasons for the gap in political influence in the Netherlands (ibid).

This critique of democracy is the same within Energy Democracy. Just like Schweickart, Energy Democracy argues for more political involvement by local citizens. Citizens should be involved in all aspects of decision making, agenda setting and preference formation. Through altering energy systems, society could also develop democratically. The type of democracy argued most for in Energy Democracy literature is associative democracy which argues that all parts of civil society should be managed by self-governing bodies on a voluntary basis. This type of democracy undermines the type of ‘democracy’ (i.e. polyarchy) Schweickart argues against wherein a privileged minority class has unequal amounts of political power within the political process. When society is based on multiple decentralized associative governmental bodies, instead of a centralized national government, privileged minority classes have less opportunities to influence that centralized government which then makes decisions in favour of the privileged minority class.

Schweickart points out how capitalism has influence on the environment in three ways: overpopulation, food scarcity and pollution. We will here focus on pollution. Because corporations in the global capitalist system have the intrinsic force to keep growing and expanding, production needs to grow and therefore the amount of pollution and carbon emissions grows. With globalization, production has become an international business and corporations operate across many borders. This means domestic politicians have less power

over companies. Also, in a global competitive business environment, poor countries try to attract global business with paying less attention to risks of pollution or regulating emissions.

Another part of the problem is the energy industry itself. Because the energy industry is also active in the global capitalistic market it needs to make profit and therefore relies on growing production. More production means more energy needed which the energy industry can then provide. Globalization is also profitable for the energy industry because products need to be transported over longer distances which means more energy is needed. The energy industry therefore thrives by a capitalistic global economy which is always looking for ways to grow and expand business. Like we have seen in the second chapter, a lot of contemporary companies in the energy sector are (partly) owned by governments. Vattenfall for instance, which is active in the Netherlands, is fully state owned by Sweden (OECD 2018: 12). Profits made in the Netherlands will go to the board in Sweden who then decide how to reinvest it. The Dutch consumer has no say in how Vattenfall will reinvest their profits.

With energy companies relying on a growing global economy and having transnational influence (either private or through governments), local energy customers have little power. According to research done by the OECD, state owned enterprises have started to invest more in their market share of new renewables capacity additions from 9% in 2000 to 23% in 2014, while on the other side keeping their market share in coal power plants and pipelines at more than 50% (idem: 37). The Energy Democracy movement therefore calls for more local power over energy. Not only takes it back power from international companies to local people, it also pushes harder in the direction of renewable energy.

So where Economic Democracy and Energy Democracy are comparable in their critique is how contemporary capitalism puts power in the hands of the few which has negative consequences for democratic values as well as the environment. Where Economic Democracy has critique of capitalism in general, Energy Democracy puts a focus on what they believe is the key driver of capitalism: abundant energy in the form of fossil fuels. According to Energy Democracy theorists, capitalism cannot be changed without changing the energy system. As long as fossil fuels are still available in large amounts and demand does not decrease, capitalism can thrive and carbon emissions will not decrease. According to data by the Global Carbon Project, carbon emissions reached an all-time high in 2018 (GCP 2018).

3.2 Same solutions

One of the key changes in society Schweickart argues for is worker self-management. An enterprise is a community and is run by the workers. The proceeds are distributed based on democratic decision making and in enterprises with many workers a council can be chosen. It is this democratic associative structure which Energy Democracy initiatives also use. According to research done by the Rosa Luxemburg Stiftung, most Energy Democracy initiatives take the form of community renewable energy cooperatives. These cooperatives are companies run by their members. The precise structure of each cooperative can differ. In some cases all members are also funders. In others some are funders, who eventually get a return on their investment, and some only buy or get energy from the company (Angel 2016: 13).

In Europe, the rise of energy cooperatives has increased after most European countries had liberalized their energy industry. The idea was to go from a national monopoly to a liberal energy market, but instead the energy market transformed in a oligopoly with a few big energy producers. Being dissatisfied by the lack of control over energy production, lack of transparency in origin and prices, energy cooperatives started to emerge (Huybrechts and Mertens: 2014: 203). In most contemporary cases the energy generated from the cooperative companies goes back to the national grid. If the members use less energy than their company generates, the national energy companies compensates this value and in this way the cooperatives make some profit. (RLS 2016: 13).

There are however examples where local energy markets or micro-grids are developing. Here local energy producers, including energy cooperatives, can trade their produced energy locally. Advantages of local energy markets are less transportation costs and less dependency on centralized or even foreign energy producers. With ‘smart meters’ participants in the local energy market can monitor and even predict their energy production and energy use which makes trading between prosumers more efficient (Ilic et al. 2013: 1). Over time, these local energy markets could be linked to each other and create regional interconnected microgrid-like network. In the case one of the local energy systems has failure, others can form a backup through the regional system (idem: 1-2).

So in structure, Schweickart his self-managed companies and energy cooperatives are comparable. They are local, self-managed and democratically governed. Profits, if made, go back to the members and they decide what to do with it. And this is where the first step towards an Economic Democracy can happen. Local cooperatives, through their activities in the energy market, start to make profits. These profits can be reinvested in other local

projects. Like for instance a food cooperative, or a healthcare cooperative. Every euro which is earned in the community gets reinvested in the community. It does not go to big corporations or foreign governments.

The difference between Schweickart and the Energy Democracy movement is how they look at the people. Schweickart argues for self-management by the workers. Energy Democracy goes a step further and puts emphasis on the combination of being a producer *and* consumer (prosumer). In the normative concept of Energy Democracy, producers of energy deliver it directly to their community and all energy which is left goes to the regional energy system. Energy Democracy therefore could be placed between Bookchin's communalism and Schweickart's Economic Democracy when it comes to their perspective on citizens. Prosumers produce in the first instance for themselves but sell their energy when they produce more than they need to the regional energy system.

When communities get financially strong enough they can move to one of Schweickart's proposals like for instance taking over a corporation or factory. Or, because workers in a factory have learned how to work within a cooperative in their own communities, they can take that knowledge to start their own cooperative in their factory. Because communities will not produce more than needed within the community, the problem of capitalist expansion and its negative consequences gets reduced. In the meantime economic and political power from the energy industry (including both corporations and state owned enterprises) gets transferred to the local communities. Two birds with one stone: communities gain strength and the energy industry loses strength. The political power of energy gets bend towards local communities.

3.2.1 Cooperatives, their limits and barriers

There are limits and barriers to cooperatives and their creation. Huybrechts and Mertens (2014) make a distinction between barriers to entry and problems of legitimacy. Barriers to entry in this case refer to barriers to entry the energy market. These barriers are for example hindering governmental regulations, the existence of monopolies in the market or difficulties to raise capital for investment (idem: 199). Solutions for lack of investment could be to attract more members with the risk of making the decision making process more complicated. Another solution could be to attract external investors. The risk here is that these external investors expect a certain return on their investment which forces the cooperative to transform in a "for-profit firm" and forces the cooperative to listen to its external investors instead of its members (idem: 200).

Another barrier to the creation of cooperatives is a problem of legitimacy. One problem of legitimacy can be that people find cooperatives excluding. External investors have no influence on the decision making process and people in the community who are not a member can feel excluded. What also can form a barrier is the lack of cognitive legitimacy. Cooperatives are not new but their numbers are small and therefore not widely known amongst the general public. Huybrechts and Mertens point out that cooperatives operate between two dominant institutional spheres, that being the business sphere on the one side and the social welfare sphere on the other. As a result not many people are familiar with the concept (idem: 201). In the next section we will see how the Energy Democracy movement in the Netherlands tries to overcome these limits and barriers.

3.3 Energy and the Netherlands

This section will give an overview of the Dutch energy politics since the Second World War and the Dutch Energy Democracy movement. The overview of Dutch energy politics is given because this context helps to understand why the Energy Democracy movement has developed in the Netherlands. It will show how the Netherlands has been dependent on fossil fuels and why the urgency for renewables has been urgent since 2012. Next to that, it will show how energy has been an political issue since the 1960's and why a demand for more democratic ways of organizing the energy system has increased because of that.

3.3.1 Dutch energy politics in the 20th century

The Netherlands is an interesting example to look at the link between energy, the economy and politics. Like most European countries after the Second World War, the Netherlands slowly became less dependent on coal. However, the Netherlands turned out to have a domestic source of energy: natural gas. For the rest of the 20th century until today this gas would be at the centre of the Dutch energy system and Dutch politics.

Until the 1950's coal was the main source of energy in the Netherlands. This changed after oil was introduced and a domestic source of gas was found in the North. By 1973 only 4% of energy use in the Netherlands came from coal (Hölsgens 2016: 10). After the Second World War oil was introduced in the Netherlands and by 1966 60% of energy consumption was based on oil. However, after this peak oil consumption decreased and stabilized at 30% by the end of the 70's where it stayed the rest of the 20th century (idem: 12). The main supplier of energy in the Netherlands became its northern province Groningen where Europe's largest natural gas field was found in 1959 in Slochteren. Since the 1970 gas has

accounted for more than half of the energy consumption in the Netherlands (idem). This means that the Netherlands has been self-sufficient when it comes to energy for a large part. However, 30% of energy consumption was still dependent on oil which mainly had to be imported (idem: 22). It was the transportation sector which still had to rely on oil because motor vehicles mostly do not run on gas (idem: 54)

The discovery of gas at Slochteren was done by the Nederlandse Aardolie Maatschappij (NAM) which was founded in 1947 by Shell and Esso as a joined company on a 50/50 ownership basis (idem: 46). This company was founded for the future exploration and exploitation of oil in the Netherlands and it was this search for oil which led to the discovery of natural gas (idem: 47). According to an old Napoleonic mining law from 1810, which was still valid during this time, resources found in the ground are not the property of the owner of the land nor of the one who discovers it, but of the state. This meant the state had to give a concession to other parties to exploit the gas field (idem: 49).

The exact agreement made between Shell, Esso and the government in 1963 about the gas exploitation remained secret until 2018. The documents about the agreement were leaked in 2018 and in these documents it became clear that the government had much more influence on the gas production than was known for more than 50 years. It became apparent that the government, through a legal construction, was a shareholder, co-operator and co-licensee of the gasfield in Groningen (Wind 2018). Until 2018 the government had always said that only the NAM was a operator. Shell and Esso wanted to keep the involvement of the Dutch government secret out of fear that other governments, mainly in the Middle-East, also wanted more influence in their business (Van den Berg 2018).

The price of gas was linked to the price of other fossil fuels, like oil, with the argument that gas could not be as expensive as its alternatives. However, the price of the production of gas in Groningen was not linked and was relatively low. This meant that the Dutch government and the NAM could both make large profits (Schwartz 2018). The Dutch bureau for statistics (CBS) estimated that the Dutch government earned 416,8 billion euros since 1965 (in 2018 price standard) (CBS 2019). Until 2012 the NAM earned about 10% of the profits made in Groningen (Van den Beukel 2018).

In 1963 the NAM started drilling for gas and within ten years almost all Dutch households were connected to gas. Between 1963 and 1965 more than 1200 kilometers of gas pipelines were constructed (Historiek 2019). In 1986 the first earth tremor was felt in Groningen. Gas in the Netherlands is found in layers of sandstone at a depth of 3 kilometers. When drilling for gas, these layers of stone will lose volume and cracks appear. Along the

lines of these cracks differences in tension will develop and eventually a sudden movement appears; an earth tremor (KNMI 2019). Since 1986 there have been thousands of earth tremors.

3.3.2. Dutch energy politics in the 21st century

In 2012 an earth tremor with a 3.6 score on the Richter scale in Groningen turned out to be a political turning point. Ever since the drillings began in the 1960's, citizens of Groningen had been complaining that their region did not profit enough of the wealth gained through the gas field while the tremors caused damage to Groninger houses (RTV Noord 2019). Now this earth tremor caused so much material damage that the Dutch government could no longer ignore it. The Department of Economic affairs started an investigation and it turns out that the tremors are becoming more severe over the years (idem).

Since then, there has been a political and national debate over who is responsible for the damage to Groninger houses and who has to pay the compensation for the damage. That is why the earlier mentioned documents leaked in 2018. According to those, the Dutch government was also responsible for the damage done to citizens in Groningen next to the NAM. The exploitation of the gas field is slowly being increased, multiple lawsuits have been started and since 2016 compensations are being done by the NAM and the government (RTV Noord 2016). But the discussion about the compensations and responsibility are still ongoing at the time of writing this thesis.

In 2015 the Dutch organisation Urgenda, which is committed to make the Netherlands more sustainable in all sorts of ways, issued a lawsuit against the Dutch government. Urgenda argued that the Dutch government did not do enough against climate change and that emissions should be reduced with 25% in 2020 compared to 1990. Urgenda won the case. Since then the government has appealed multiple times, but Urgenda won every case (Straver 2019). This lawsuit together with the recent history in Groningen and as an answer to the Paris agreement, the Government published their own climate agreement in 2019. Together with more than a 100 stakeholders like corporations and environmental organisations the government wrote the agreement. The main goal described in the agreement is to reduce emissions with 49% in 2030 compared to 1990. Next to that, the most important measures described are:

- Before 2021 all municipalities need to announce when which of their neighbourhoods will no longer be dependent on gas

- Homeowners can get a loan linked to their house to help with the transition to sustainability as a result of the previous measure
- Taxes on gas will increase
- Housing corporations will need to make between 30.000 to 50.000 houses more sustainable per year

(Rijksoverheid 2019).

3.4 The Dutch Energy Democracy movement

According to the Dutch *Local Energy Monitor*, an annual report on local energy production made by HIER Opgewekt (translation: produced here), there were 484 local energy cooperatives in the Netherlands in 2018. In total there are almost 70.000 Dutch citizens active in local energy cooperatives (HIER Opgewekt 2018: 5). The first generation of energy cooperatives emerged in the late 1980's and 1990's as an anti-nuclear movement and to counterbalance big electricity corporations. Most of these cooperatives were wind based. Because these cooperatives were more focused on ideological reasons rather than economic ones, most of these cooperatives disappeared over time (Dóci 2017: 21).

In 2004 the energy market in the Netherlands was liberalized. Before the liberalization there were a few big energy corporations active in the Netherlands, all with their own region where they were responsible for energy production and distribution. As a customer you were tied to the energy corporation active in the region where you lived. As a first step towards liberalization, the green energy market was opened up in 2001 which meant everyone could choose which green energy provider they wanted. In 2004 the whole Dutch energy market was liberalized, this meant that from then on everyone could choose which energy provider they wanted. It also meant that corporations that produce and supply energy, and corporations that own and operate the grid, were separated. Because most pipelines and cables go underground a free market system on the grid is not possible. (Energiegids 2019).

The liberalization of the energy market was a push for the second generation of energy cooperatives in the Netherlands. Now everybody was allowed to produce electricity. The motivations for creating local energy cooperatives became more diverse. Reasons mostly found in research done by Dóci on why Dutch citizens joined local energy cooperatives are cost reduction, the environment, becoming less dependent on big energy corporations and increasing fossil fuel prices (Dóci 2017: 52). But there were also more community based reasons for creating or joining a local energy cooperative like meeting new people, gaining friendships or getting accepted by the community (idem: 53). A comparable research was

done by Boon and Dieperink. Additional reasons they found were wanting to get independent from foreign energy exporting countries, the potential of co-ownership and non-constraining participation, and fair and equal distribution of benefits (Boon and Dieperink 2014: 303-304).

Municipalities and provinces in the Netherlands are able to form their own strategies when it comes to renewable energy. The national government supports big renewable energy projects through a subsidy scheme (SDE+), but leaves the support of local energy cooperatives mostly to the regional and local governments. If and how municipalities support local energy cooperatives differs per municipality (Oteman et al. 2014: 8). Some support local energy cooperatives through investments or letting them use public ground for solar panels fields. Other municipalities are sometimes not willing to support. This is mostly due to a lack of cognitive legitimacy. Administrators are not familiar with the concept of local energy cooperatives or argue that there are legal restrictions like the procurement law (Rijkswaterstaat 2013: 22).

One way the Dutch Energy Democracy movement tries to overcome the cognitive legitimacy problem is through working together on the regional and national level. By exchanging information and lobbying at the national governmental level Dutch energy cooperatives have learned from each other and gained more attention. ‘Energie Samen’ for instance is a branch organisation for local renewable energy initiatives and was one of the stakeholders when creating the Dutch climate agreement in 2019 (Harteveld 2019). HierOpgewekt is the national information platform about local energy cooperatives. But also on the regional level cooperatives started to form organisations like for instance the ‘Vereniging van Energiecoöperaties in Gelderland’ which helps local energy cooperatives in the province of Gelderland with providing information and linking governmental institutions to local citizens (VECG 2019).

3.4.1 Dutch energy cooperatives

HierOpgewekt differentiates four types of cooperatives in the Netherlands: (1) wind cooperatives which primarily focus on producing energy through wind, (2) community cooperatives which primarily focus on their own community and surrounding environments and organize multiple activities around energy, (3) project cooperatives which primarily focus on one energy related project or one type of project and (4) cooperatives of cooperatives where different cooperatives decide to form an alliance. In reality the lines between these types are not that sharp and cooperatives from one type can evolve in others over time (HierOpgewekt 2018: 11).

Another important differentiation when it comes to cooperatives is how they operate in the energy market: consumer, producer and supplier (HierOpgewekt 88). When a cooperative works as a consumer it helps people in its neighbourhood with collectively buying technologies for renewable or sustainable energy. Like for instance solar panels or insulation material. When people buy for instance solar panels all at once as a big group they can negotiate for discounts. Next to that, some cooperatives stimulate local residents to buy solar panels locally (if possible). The cooperative in this case acts like a negotiator without a profit motive.

Another option within the consumer category is what is called 'resale'. Cooperatives negotiate with a big green energy provider for favorable deals and cheaper energy prices. The energy provider gets a significant group of new customers. In return the energy provider pays the cooperative a margin compensation between 25 to 75 euros per new customer per year. The cooperative can choose to give this money back to its members or to invest it in new projects. So a resale customer cooperative does not produce its own green energy. But it is a suitable first step towards producing because the cooperative can save the money it collects through the resale deal and use this to invest in its own renewable energy sources. About 60% of all current energy cooperatives in the Netherlands work with resale (ibid).

A producing cooperative has its own green energy producing technology and sells its energy to a big energy supplier who then distributes it to its customers. In return the energy supplier pays a fee to the cooperative. Cooperatives become a part of the national energy producing network and increase the share of green energy. Because the Dutch government does not want any disruptions in the national energy supply, becoming a supplier yourself as a cooperative is not easy. But by producing and selling green energy to the big national energy suppliers the cooperative can use the earned money to reinvest in the local cooperative, neighbourhood and local economy. In this way the community profits and the national energy supply becomes more diverse.

In order to include more people within a neighbourhood to participate in renewable energy production initiatives the government has created the so called 'PostCodeRoos'-regulation. 'Postcode' means zip code. Typically zip code areas in the Netherlands are not rectilinear designed but rather messy. People who live in the same zip code ('postcode') area form the heart of the rose (roos). All the zip code areas adjacent to this heart are the leaves of the rose. When a group of people within this rose want to produce renewable energy, either through solar or wind power, they can get a dispensation from the regular energy tax without the technology for renewable energy actually being on their own property. This means for

instance that a cooperative can install a field of solar panels on the roof of a school and the individual members get refund on their personal energy tax. Through this regulation, creative and new forms of local energy production are stimulated (ECoop 2019).

One concern which can be raised when it comes to cooperatives is that it also can be non-inclusive. To create a cooperative a starting capital is needed and people with low financial resources have the risk to be excluded from the Energy Democracy movement. One Dutch initiative to overcome this problem is the ‘Op Rozen-model’ (on roses) which indirectly refers to the Postcoderoos Regeling. It is a business model where members pay 1% of the investment themselves, finance 80% with a loan from the bank and 19% through crowdfunding. The cooperative pays back the loan over time through the revenues of producing and selling renewable energy and their discount on the energy tax (HierOpgewekt 2019).

Another important factor in the Dutch Energy Democracy movement are housing associations. Housing associations in the Netherlands own about 2,4 million houses on a total of 7,5 million. Their task is to build and maintain affordable rental houses for people with a low income. When these associations invest in sustainability and renewable energy, a significant amount of people with a low income can be involved in the transition towards renewable energy. The government has promised the Dutch housing association to help them with financing these projects (Koster 2018). But there are also examples of initiatives where housing associations work together with energy cooperatives. Housing associations make their roofs available for solar panels and the members of the energy cooperative get the profits. One example of this concept is Buurtzon in the city of Arnhem. The housing association Volkshuisvesting makes their roofs available for free. The energy cooperative loans the money from the government and uses the profits to pay off the loan. Members can therefore join for free. When the loan is paid the profits can be used to reinvest in the community (Buurtzon 2019).

The last way energy cooperatives can function within the energy market is as a supplier. It is difficult to become an energy supplier in the Netherlands because the government wants to be sure there is a undisturbed supply of energy. There are however examples in the Netherlands where energy cooperatives have become suppliers through working together. These are cooperatives of cooperatives. In the Netherlands there are currently two of these cooperatives of cooperatives. One of these is ‘Energie van Ons’ active in the three northern provinces Groningen, Friesland and Drenthe. Right now there are 88 cooperatives represented in Energie van Ons. Each province has a umbrella cooperative and

these three each own a third of Energie van Ons. All the cooperatives produce energy and sell this to Energie van Ons. Energie van Ons sells the energy to the customers. All cooperatives get a per capita share of the profits depending on how many members they have. The local cooperatives can then use their share to reinvest in their communities (Energie VanOns 2019).

3.4.2. The spill over effect in local energy cooperatives

Local energy cooperatives provide local citizens with a means to make profit from producing renewable energy which then can be reinvested in the community. It takes power from centralized energy corporations and brings it to local communities. In each step from consuming energy cooperatives to producing and lastly supplying energy cooperatives, the cooperatives take more responsibility in the energy market and therefore more power. With profits made through their activities cooperatives either invest in their renewable energy activities or start other local projects. Investing in other local projects is what I would call the spill over effect of local energy cooperatives. In the Netherlands there are a few examples of local energy cooperatives with visible spill over effects.

Soesterkwartier is a neighbourhood in the Dutch city of Amersfoort with about 10.000 local residents. The neighbourhood was built in 1904 next to the Amersfoort train station and railway yard. Historically it housed a lot of people who worked for the railway company (Zuithof 2018). In 2000 the municipality had plans to take down some of the industrial heritage in Soesterkwartier. Some of the local residents stepped up and protested against these plans. Eventually in 2007 the municipal council agreed that the industrial heritage would be preserved if the local residents would use it for goals of sustainability and the environment. A group of 50 local residents founded an association called ‘ Vereniging Duurzaam Soesterkwartier’ (association sustainable Soesterkwartier) in 2010 (PBL 2015: 94). The association is committed to sustainable energy usage and sustainable building (VDS 2019: 2).

The first project VDS started was the insulation of 240 houses in the neighbourhood. Because the project included more than 200 houses, costs could be shared and the purchasing of materials was cheaper (Zuithof 2018). Next was the establishment of a cooperative committed to the production of solar energy on the roofs of school buildings in the neighbourhood called Zon@School (Sun at school) in 2013. On the roof of one school they placed 60 solar panels and on another 100 (Zon@School 2019). Local residents could invest in both the projects as shareholders and in return get interest on energy savings made by the

schools (Zuithof 2018). In this way the school could produce renewable energy and local residents were involved in the enhancement of their neighbourhood.

Since then the VDS has been a driving force behind all sorts of activities and projects in Soesterkwartier. There is a car sharing project with 20 available cars since 2014. And multiple working groups have been founded which for instance help to sustain all nature within the neighbourhood, to help people with little financial means or a small network with funerals, to inform new residents and make them feel welcome and to make the industrial heritage suitable for working and living in a sustainable way (VDS 2019). VDS sees itself as a mediator between the local residents and the municipality. The municipality itself has also learned from VDS and adopted some of their strategies to use them in other neighbourhoods (PBL 2015: 95).

An interesting initiative in Soesterkwartier worth elaborating on is the ‘Wijkeconomie’ (neighbourhood economy) project since 2014. The idea behind this initiative is to keep money and profits as much as possible within the neighbourhood by stimulating residents to buy each other’s products, by collectively organizing the provision of services like nursing and there are even plans for a local currency (de Gooijer en Pleizier 2014). This idea is comparable with the earlier mentioned Preston Model. By stimulating to keep business activities and profits within the neighbourhood the neighbourhood thrives. The development of the Wijkeconomie is still in its early stages but the initiative itself can already be seen as a spill over effect.

Another example of a local energy cooperative where spill over effects are visible is Nieuwleusen Synergie in the village Nieuwleusen in the Dutch province of Overijssel. This cooperative started out in 2012. Since then the members helped the neighbourhood with the placement of solar panels, insulating their houses and using more LED technology in their houses (Nieuwleusen Synergie 2019a). Next to their energy related activities, Nieuwleusen Synergie has opened a local thrift shop, started a community car service and is trying to open up a community farm with educational purposes. There is also an initiative with local healthcare. The idea behind this initiative is that the modern welfare state has increased individualism and decreased mutual responsibility. By stimulating local residents to take care of each other Nieuwleusen Synergie tries to increase the social cohesion. An example of the healthcare related activities in Nieuwleusen is the initiative where young local residents for a small fee help elderly people with groceries or other small tasks (Nieuwleusen Synergie 2019b).

3.5 Towards Economic Democracy in the Netherlands

There is a clear incentive in the Netherlands to transfer from fossil fuels to renewable energy. Next to climate change it has become apparent that the Netherlands can no longer rely on its natural gas source. The damage done to the province of Groningen has become too drastic. Next to that it has become clear how much influence the fossil fuel industry had on the Dutch government and how energy has impact on Dutch politics. This leaves an opportunity for local energy cooperatives to be an answer. Therefore the Netherlands has a suitable context for change towards Economic Democracy.

It is through bending power from centralized energy corporations towards local energy cooperatives, creating profits by local energy cooperatives and the spill over effect within local communities that the Netherlands could take its first steps towards an Economic Democracy. When local energy cooperatives gain more power and involve more of the residents of their communities in different kinds of local projects and initiatives they create the process of community wealth-building. Every euro earned within the community gets reinvested in the community. Local residents get power over the economic development of their communities through local democratic institutions (i.e. the cooperative). Citizens become prosumers and have influence on the production of the energy they will use for their households and the production of other goods.

It is this kind of local collaboration and initiatives needed to move towards an Economic Democracy. Through local energy cooperatives, citizens learn to produce and cooperate in a democratic way. Social cohesion increases within the community and through the spill over effect other products or services, next to energy, can be produced locally. Local communities regain power over their economic development which discourages young people to move to other regions with more economic prosperities. Meanwhile, the Netherlands gets less dependent on natural gas from Groningen and foreign fossil fuels. The energy industry will slowly lose its power over the economy and political sphere. By producing more products locally, multinational corporations producing and selling other products in the Netherlands will also lose power.

The next step in the process could be the increasing involvement of municipalities. To which degree local councils in the municipalities support local energy cooperatives currently differs among the country. Some local councils make use of the local energy cooperatives, others are unfamiliar or unwilling to work with them. But according to the 2019 climate agreement, municipalities need to come up with their own strategies to get their neighbourhoods to go from being dependent on gas to other (renewable) resources. With local

energy cooperatives local councils can make use of the willingness of the local energy cooperatives to invest in renewable energy and to get more local citizens involved. Local energy cooperatives not only bring their own money to the table but also increase legitimacy through their democratic structure. Local councils could be of service to the local energy cooperatives with financial support, giving out permits or making public spaces available for renewable energy technologies.

When municipalities and their local councils and local energy cooperatives start working together, the local council could start a policy where it also supports and pushes for spill over effects with for instance giving out loans. The same could happen on the regional level where cooperative umbrella organisations and the regional governments start working together and promoting and pushing for local energy cooperatives and spill over effects. In creating this system we come closer to the envisioned system of Schweickart with local cooperatives supported by local banks which in their turn are financed through the national investment fund. Municipalities and their local councils first operate as if they are the local bank and over time could set up a public bank on its own. Local councils could for instance make a deal with all their local cooperatives that they pay a tax which the municipality then uses to support the cooperatives. Because the municipality is democratically chosen it is comparable democratically local banks envisioned by Schweickart.

Up until this point, the steps described in the direction towards Economic Democracy could be the same steps needed towards Bookchin's communalism. With communalism there would be a communal based economy with a confederal connection between the communities, and production was based on how much would actually be used in the community. The difference between Economic Democracy and Communalism is to which extend the national structure is still intact and how profits are used. In communalism, there are no profits. In Economic Democracy, profits go back to the workers who can then use it to reinvest in the community. The way in which local energy cooperatives are growing and strengthening themselves and each other is based on the fact that they can make profit. Economic Democracy uses that principle within its theoretic system, communalism does not. Profits made by the communities are a way of developing the Energy Democracy movement and therefore developing to a community based economy. Next to that, through the national investment fund proposed by Schweickart, inequality between communities gets reduced.

When municipalities and their local councils, regional governments and eventually the national government are willing to support and invest in local energy cooperatives, steps towards Economic Democracy can be made. Overtime the cooperatives should be able to

operate without too much governmental support and start making profits of their own and becoming self-reliant. When people are satisfied with the cooperative systems they work in they could vote for political parties willing to support the cooperative system. This could be the push for the 'counter-project' which eventually will elect a leftist party willing enough to take the other steps towards an Economic Democracy.

Conclusion

This thesis started out with the question: ‘To what extent and how can the Energy Democracy movement move the Netherlands towards Economic Democracy?’ In short, Energy Democracy introduces communities to the cooperative model of production. When cooperative collaboration is successful, spill over effects can take place and communities start producing other products or services in a cooperative way. Meanwhile, because the energy system is key to the economic system and has influence on (inter-)national political decision making, power from (inter-)national corporations and governments is bended to the local level.

In order for a society to move towards Economic Democracy, communities and its citizens need to get familiar with local democracy and local production. Local energy cooperatives are, in the context of global warming, the decreased dependency on gas in Groningen and the renewable energy transition, a relatively low-threshold way for citizens to get used to local democracy and production. Because energy lies at the heart of the (inter)national political as well as the economic system, it is a important and effective part of society to start with change. When communities produce their own energy, this energy can then be used to fuel their own industry, they become prosumers. In the meantime power shifts from (multi-) national energy corporations to local energy cooperatives. Energy corporations are one of the driving factors behind the contemporary capitalist economic system and have had a significant influence over governments historically. Local energy cooperatives therefore not only strengthen local initiatives but also undermine (inter-) national capitalistic power structures.

Next to that, local energy cooperatives can create spill over effects within communities to also engage on a cooperative manner in other industries or activities next to energy. When local energy cooperatives are successful, either through an increased level of social cohesion or to the earning of profits, people may feel motivated to expand activities. When profits made in the local energy cooperative go back to the cooperative, members can choose how these profits will be used and reinvest in the community. Other cooperatives can be financed and therefore steps towards a community based economy are made. The spill over effect is not a phenomenon natural to local energy cooperatives. Other local cooperatives could cause the same effect. The difference with energy cooperatives, like mentioned before, is the relative low-threshold character in the current Dutch context. But for instance local healthcare cooperatives could probably create the same effect.

It is argued in this thesis that local energy cooperatives could be a suitable first step towards Economic Democracy but it is uncertain how the development of this movement will go. There is a visible growth of local energy cooperatives in the Netherlands and there is also more and more cooperation between the cooperatives. In order to move further, more spill over effects need to take place. There are examples of these spill over effects in the Netherlands but this development is still in the early stages.

To really make greater steps towards Economic Democracy, municipalities and their local councils need to step in and start working together with the local energy cooperatives. Here we could refer back to Preston and the Preston model. The local council in Preston has been the driving factor behind the community based economy and works together with its citizens to strengthen the local economy. Municipalities and their local councils in the Netherlands have a local responsibility to guide their neighbourhoods through the renewable energy transitions. As soon as local councils realise that local energy cooperatives could be helpful in this transition, the next step towards Economic Democracy can be made.

Discussion

This thesis has tried to show how Energy Democracy could be a first step towards Economic Democracy. The theory of Economic Democracy functioned as the dot on the horizon and it was argued that Energy Democracy could be the direction to get there. However, there is still a big gap between what was shown in this thesis and actually altering society towards a full Economic Democratic system. To get to Economic Democracy much more steps are needed. Energy Democracy could be the first step, and also the last if spill over effects do not take place or if governments are not willing to support the movement. People will produce energy locally in a cooperative way but the development will stop there. Or, Energy Democracy turns out to be the first step towards another non-capitalistic system.

More research is needed on spill over effects in local energy cooperatives. Is this a phenomenon which will always occur in successful energy cooperatives or are there other factors needed for the spill over effect? To which extent does social cohesion need to be present prior to the creation of a energy cooperative in order for spill over effect to take place? Can local councils in municipalities force local energy cooperatives to create spill overs or will this undermine the legitimacy? These questions are questions which are relevant for social science as well as policy makers. Local energy cooperatives are an existing and growing phenomenon and social scientists as well as policy makers can no longer ignore them. If there

is a desire in society to change capitalism (i.e. countermovement) social scientist and policy makers will need to include the Energy Democracy movement.

References

- Angel, J. (2016). “Strategies of Energy Democracy”. Brussels: Rosa Luxemburg Stiftung.
- Bookchin, M. (2006). *Social Ecology and Communalism*. Oakland: AK Press.
- Boon, F.P. and Dieperink, C. (2014). “Local civil society based renewable energy organisations in the Netherlands: Exploring the factors that stimulate their emergence and development”, *Energy Policy*, 69: 297-307.
- Burke, M.J. and Stephens, J.C. (2018). “Political power and renewable energy futures: a critical review”, *Energy Research & Social Science*, 35: 78-93
- Buurtzon (2019). “Over Buurtzon”. Retrieved 17 July 2019 from: <https://buurtzonarnhem.nl/>
- CBS (2019). “Aardgasbaten uit gaswinning bijna 417 miljard euro”, *Centraal Bureau voor de Statistiek*. 28 May. Retrieved 25 July 2019 from: <https://www.cbs.nl/nl-nl/nieuws/2019/22/aardgasbaten-uit-gaswinning-bijna-417-miljard1-euro>
- Dóci, G. (2017). “Renewable energy communities. A comprehensive study of local energy initiatives in the Netherlands and Germany”. Amsterdam: Vrije Universiteit.
- Eaton, G. (2018). “How Preston – the UK’s “most improved city” – became a success story for Corbynomics”, *NewStatesman*, 1 November, retrieved from: <https://www.newstatesman.com/politics/uk/2018/11/how-preston-uk-s-most-improved-city-became-success-story-corbynomics>
- ECoop (2019). “Wat houdt de PCR-regeling precies in?”. Retrieved 28 July 2019 from: <https://www.postcoderoosregeling.nl/wat-houdt-de-pcr-regeling-precies-in/#>
- Energiegids (2019). “Liberalisering van de energiemarkt”. Retrieved 28 July 2019 from: <https://www.deenergiegids.nl/liberalisering-van-de-energiemarkt/>
- Energie VanOns (2019). “Onze beweging”. Retrieved 28 July 2019 from: <https://energie.vanons.org/over-ons/onze-beweging/>
- European Commission (2018). *EU energy in figures*, Luxembourg: Publications office of the European Union.
- Gilens, M. and Page, B.I. (2014). “Testing Theories of American Politics: Elites, Interest Groups, and Average Citizens”, *Perspectives of Politics*, 12 (3): 564-581.
- Guinan, J. and O’Neill, M. (2019). “From community wealth-building to system change”, *IPPR Progressive Review*, 25 (4): 382-392
- Hall, C.A.S. and Klitgaard K.A. (2012). *Energy and the Wealth of Nations*. New York: Springer.
- Harteveld, L. (2019). “Klimaatakkoord met een sterke rol voor burgers”, *Energie Samen*.

- Retrieved from: <https://energiesamen.nu/2019/06/28/klimaataakkoord-met-een-sterke-rol-voor-burgers/>
- HIER Opgewekt (2018). “Lokale Energie Monitor 2018”, Den Haag: *Rijksdienst voor Ondernemend Nederland*.
- Historiek (2019). “Gaswinning in Groningen”. Retrieved 26 July 2019 from: <https://historiek.net/gaswinning-in-groningen-geschiedenis-gevolgen/74692/>
- Hölsgens, H. N. M. (2016). *Energy Transitions in the Netherlands: Sustainability Challenges in a Historical and Comparative Perspective*. Groningen: University of Groningen, SOM research school.
- Huber, E., Rueschemeyer, D. and Stephens, J.D. (1993). “The Impact of Economic Development on Democracy”, *Journal of Economic Perspectives*, 7(3): 71-85.
- Huybrechts, B. and Mertens, S. (2014). “The Relevance of the cooperative model in the field of renewable energy”, *Annals of Public and Cooperative Economics*, 85 (2): 193-212.
- ICA (International Co-operative Alliance) (2019). “Cooperative identity, values & principles”. Retrieved 26 July 2019 from: https://www.ica.coop/en/cooperatives/cooperative-identity?_ga=2.173524779.926490027.1564136960-494162983.1564136960.
- Ilic, D., Da Silva, P.G., Karnouskos, S. and Griesemer, M. (2012). “An energy market for trading electricity in smart grid neighbourhoods”, *6th IEEE International Conference on Digital Ecosystems and Technologies (DEST)*, Campione d'Italia: 1-6.
- KNMI (2019). “Uitleg over: Aardbevingen door gaswinning.” *Koninklijk Nederlands Meteorologisch Instituut*. Retrieved 13 July 2019 from: <https://www.knmi.nl/kennis-en-datacentrum/uitleg/aardbevingen-door-gaswinning>
- Koenis, C. (2019). “EU weert zich met strengere regels tegen Russisch-Duits gasproject Nord Stream 2”, *NRC Handelsblad*, February 13. Retrieved from: <https://www.nrc.nl/nieuws/2019/02/13/aanleg-omstreden-gaspijplijn-nord-stream-2-kan-door-dankzij-eu-akkoord-a3653879>
- Koster, R. (2018). “Klimaataakkoord: woningcorporaties motor achter verduurzaming huizen”. *NOS*, 20 December. Retrieved from: <https://nos.nl/artikel/2264357-klimaataakkoord-woningcorporaties-motor-achter-verduurzaming-huizen.html>
- Mitchell, T. (2011). *Carbon Democracy. Political power in the age of oil*. London: Verso.
- Nieuwleusen Synergie (2019a). “Stand van zaken taakgroep Duurzaam Energiegebruik”. Retrieved July 29 2019 from: <http://nieuwleusensynergie.nl/stand-van-zaken/>
- Nieuwleusen Synergie (2019b). “Nieuwleusen Synergie Hulp”. Retrieved July 29 2019 from:

<http://nieuwleusensynergie.nl/hulp-buurauto-materialotheek/>

- NOS (2017). “Wat heeft Nederland aan al dat gas verdiend en wat willen partijen nu?”. 1 March. Retrieved from: <https://nos.nl/artikel/2160767-wat-heeft-nederland-aan-al-dat-gas-verdiend-en-wat-willen-partijen-nu.html>
- OECD (2017). *Understanding the socio-economic divide in Europe*. Available at: <http://oe.cd/cope-divide-europe-2017>.
- Oteman, M., Wiering, M. and Helderma J.K. (2014). “The institutional space of community initiatives for renewable energy: a comparative case study of the Netherlands, Germany and Denmark”, *Energy, Sustainability and Society*, 4 (11): 1-17.
- PBL (2015). *Aanpassen aan klimaatverandering – Kwetsbaarheden zien, kansen grijpen*, Den Haag: Planbureau voor de Leefomgeving.
- Prag, A., D. Röttgers and I. Scherrer (2018), "State-Owned Enterprises and the Low-Carbon Transition", *OECD Environment Working Papers*, Paris: OECD Publishing.
- Rijksoverheid (2019). *Klimaatakkoord*. Den Haag: Rijksoverheid.
- Rijkswaterstaat (2013). “De rol van gemeenten bij lokale duurzame energie-initiatieven”. Utrecht: Rijkswaterstaat.
- RTV Noord (2016). “Aardbevingsnieuws in oktober 2016: ophef over afhandeling bevingsschade”. 31 October. Retrieved from: <https://www.rtvnoord.nl/nieuws/169542/Aardbevingsnieuws-in-oktober-2016-ophef-over-afhandeling-bevingsschade>
- RTV Noord (2019). “Aardbevingen in Groningen: Tijdlijn”. Retrieved 29 July 2019 from: <https://www.rtvnoord.nl/aardbevingen>
- Schakel, W. (2019). “Unequal policy responsiveness in the Netherlands”, *Socio-Economic Review*, 0 (0): 1-21.
- Schwartz, K. (2018). “De Nam: melkkoe van Nederland, zonder vet op de botten”, *Trouw*, 27 January. Retrieved from: <https://www.trouw.nl/nieuws/de-nam-melkkoe-van-nederland-zonder-vet-op-de-botten~bb3431fc/>
- Schweickart, D. (2002). *After Capitalism*. Oxford: Rowman & Littlefield Publishers, Inc.
- Schweickart, D. (2004). “Successor-System Theory as an Orienting Device: Trying to Understand China”, *Nature, Society and Thought*, 17 (4): 389-402.
- Schweickart, D. (2012). “An Economic Democracy Reform Agenda”, *Perspectives on Global Development and Technology*, 11 (1): 244-257.
- Siddi, M. (2016). “The EU’s gas relationship with Russia: solving current disputes and strengthening energy security”, *Asia Europe Journal*, 15(1): 107-117.

- Straver, F. (2019). “Het gevecht over de Klimaatzaak bereikt de Hoge Raad, Urgenda is het wachten beu”, *Trouw*. 24 May. Retrieved from: <https://www.trouw.nl/duurzaamheid-natuur/het-gevecht-over-de-klimaatzaak-bereikt-de-hoge-raad-urgenda-is-het-wachten-beu~b3c4aa445/>
- Sundaresan, C.S. (2012). “Oil and the Political Economy of State Capitalism”, *Procedia Economics and Finance*, 1: 383-392.
- Sundberg, U. (1992). “Ecological economics of the Swedish Baltic Empire: An essay on energy and power, 1560–1720”, *Ecological Economics*, 5(1): 51-72.
- Szulecki, K. (2018). “Conceptualizing energy democracy”, *Environmental Politics*, 27 (1): 21-41.
- Tegenlicht (2019). “Eigen handel eerst”. *Tegenlicht*, VPRO. 3 March.
- Van Bochove, C. (2008). *The Economic Consequences of the Dutch*. Amsterdam: Aksant.
- Van den Berg (2018). “Groningse boer kreeg geheime documenten in handen: 'De overheid heeft ons al die tijd belazerd'”, *de Volkskrant*, 3 February. Retrieved from: <https://www.volkskrant.nl/economie/groningse-boer-kreeg-geheime-documenten-in-handen-de-overheid-heeft-ons-al-die-tijd-belazerd~b4253d72e/>
- Van den Beukel (2018). “Groningen is voor de staat nog steeds een winstmaker, maar Shell verliest juist op Gronings gas”, *Trouw*, 28 May. Retrieved from: <https://www.trouw.nl/opinie/groningen-is-voor-de-staat-nog-steeds-een-winstmaker-maar-shell-verliest-juist-op-gronings-gas~b54dd06f/>
- Van Veelen, B. and Van der Horst, D. (2018). “What is energy democracy? Connecting social science energy research and political theory”, *Energy Research & Social Science*, 46: 19-28.
- VECG (2019). “Welkom bij de Vereniging van Energiecoöperaties in Gelderland”. Retrieved 30 July 2019 from: <https://www.vecg.nl/welkom-bij-de-vereniging-van-energieco%C3%B6peraties-gelderland>
- VDS (2019). “Duurzaam Soesterkwartier”, *Vereniging Duurzaam Soesterkwartier*. Retrieved 30 July 2019 from: <http://www.kennisvoorklimaat.nl/media/default.aspx/emma/org/10683750/duurzaam-soesterkwartier-activiteiten-folder-2011-web.pdf>
- Wind, M. (2018). “Hier zijn ze dan, die geheime stukken uit 1963 over de gaswinning in Groningen”, *Dagblad van het Noorden*, 8 April. Retrieved from: <https://www.dvhn.nl/groningen/Hier-zijn-ze-dan-die-geheime-stukken-uit-1963-over-de-gaswinning-in-Groningen-22871481.html>

Zon@school (2019). “Over ons”. Retrieved 2 August 2019 from:

<https://zonschool.nl/overons/>

Zuithof, M. (2018). “De kracht van Duurzaam Soesterkwartier”, *Stadszaken*. Retrieved 28

July 2019 from: <https://www.stadszaken.nl/klimaat/participatie/1784/de-kracht-van->

[duurzaam-soesterkwartier](https://www.stadszaken.nl/klimaat/participatie/1784/de-kracht-van-duurzaam-soesterkwartier)