Stories of Climate Change: Circular Transformation or Business as Usual?

A Discourse Analysis of Climate Change Mitigation Policy in Three Swedish Municipalities

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Abstract

This thesis identified dominant discourses in climate change mitigation policy in three Swedish municipalities using argumentative discourse analysis. It was explored how these discourses influence the potential for success in mitigating climate change. Other studies have identified several factors that are important when working with climate change mitigation in municipalities, for example, political leadership and organizational structure. However, studies have shown that discourse is also an influential factor since it sets the frame for what can be thought of, consequently influencing policies and actions, but this has not been studied as much at the municipal level in Sweden. Previous studies of environmental policy have shown the dominance of an ecological modernization discourse, where economic growth and environmental issues are combined to create a win-win. The results in this thesis show the dominance of a strong ecological modernization where the decoupling between economic growth and environmental problems, renewable energy and technology, a global justice perspective, and a focus on collaboration between stakeholders is central. A main conclusion is that the ecological modernization discourse risks obscuring potential solutions that are not related to the market or technological innovation. However, the inclusion of a diversity of actors and a focus on justice could potentially minimize this risk. Finally, emerging discourses around transformation and circular economy could be ways to problematize the taken-for-granted ecological modernization discourse. However, their potential depends on how these concepts are framed and what is included in them.

List of Abbreviations

ADA	Argumentative Discourse Analysis
CCS	Carbon Capture and Storage
CE	Circular Economy
EM	Ecological Modernization
GG	Green Governmentality
GHG	Greenhouse Gas Emissions
NGO	Non-Governmental Organization
SE	Sharing Economy

1. Introduction

> Discourse analysis then investigates the boundaries between the clean and dirty, the moral and the efficient, or how a particular framing of the discussion makes certain elements appear as fixed or appropriate while other elements appear problematic. (Hajer, 1995, p. 54)

At the global level, the importance of cities in mitigating climate change has been clearly stated. Globally, cities are responsible for 70 % of global greenhouse gas emissions (GHG), and they are seen as important actors in climate change mitigation since they have the potential to instigate change, influence lifestyles, and spur technological innovation (Saldert, 2017; Mi et al., 2019). Since Sweden is often seen as frontrunner in climate change mitigation with a strong local government, it serves as a good example for studying municipal climate change policy (Granberg & Elander, 2007; Lidskog & Elander; 2012; Saldert, 2017). Sweden can be seen as a decentralized welfare state where municipalities are self-governed, meaning that they are responsible for many welfare functions and local development. Often they have strong financial, political, and legal resources. Consequently, Swedish municipalities have a high capacity for action, while at the same time being steered by governmental goals and regulations to some extent. The Swedish government sets the overall goal for climate action and the direction for municipalities in the form of regulations, financial support, and control. However, since there are few binding rules, the government is more enabling municipalities to take climate action, rather than steering them (Granberg & Elander, 2007; Sveriges Kommuner och Regioner, 2021). Swedish municipalities are seen as important actors in order to reach national climate change mitigation goals, and their involvement in climate politics has gradually increased. Many have climate mitigation strategies, and cooperate with other actors at the regional level. Municipalities are responsible for community planning and education, energy provision, waste management, public procurement, and is a big employer etc., meaning that they can work with climate change mitigation in many ways. They are also responsible for making the municipality a good place to live, economically, socially and ecologically. However, climate change issues also compete with other issues like unemployment, segregation and city development (Granberg & Elander, 2007; Storbjörk et al., 2017; Uggla & Elander, 2009). Therefore, it is important to study how municipalities work with climate change mitigation.

Studies of Swedish local climate policies have shown that there are different factors that influence how municipalities work with climate change. Factors that are often mentioned as important are political leadership, ambitious municipal officials, size and organizational structure, geographic setting, stakeholder involvement, budget, transparency about selection of targets, long-term strategies, evaluation, and financial support and direction from the national government (Fenton et al., 2015; Ghaderi & Johansson, 2013; Storbjörk et al., 2017; Uggla & Elander, 2009). Other studies of environmental policy have shown that discourse is something that highly effects climate change work in politics. These studies have shown how dominant discourses predominantly have favored technological and market based solutions, with a focus on production based emissions, which has not led to the required reduction in GHG emissions globally, or at the national level in Sweden (Anshelm & Hultman, 2015; Bäckstrand & Lövbrand, 2019; Dryzek, 2013; Hajer, 1995; Lidskog & Elander, 2012; Machin, 2019; Zannakis, 2013). At the local level, studies of "eco-cities" globally have shown similar results with a carbon discourse, technological solutions, and green growth. A problem with

this discourse is the focus on technological solutions and portraying people as consumers rather than as citizens. There is often a conflict between economic growth, and social and environmental sustainability measures. Actions that question established norms of production, consumption and transportation are often more difficult to implement than those that generate growth (Saldert, 2017). This type of discourse has also been shown to create a post-political condition where power relations are maintained, and economic growth is impossible to question, obscuring and invalidating other potentially important solutions (Swyngedouw, 2010). Saldert (2017) explored sustainability discourses in Växjö and Stockholm, and how they have changed since the implementation of Agenda 21 up to around 2014. Other than that, few studies have analyzed discourses at the municipal level in Sweden.

Discourses are shaped by social contexts, institutions and power relations, and simultaneously they shape the social context, institutions, and help to maintain power relations. Both institutions and social contexts thereby influence the development and circulation of discourses. Consequently, how sustainability is governed is influenced by how problems and solutions to an environmental issue are understood. Therefore, it is important to study discourses at the municipal level (Feindt & Oels, 2005; Saldert, 2017). Discourses set the frame for what can be thought of, accordingly they influence the range of policies and actions. Thereby, the study of discourses can analyze how climate change questions are handled politically and how discourses shape political practices. It can also show which norms influence practices. Therefore, exploring discourses can show what type of solutions are preferred and what potential influence this could have on the possibility to mitigate climate change (Bäckstrand & Lövbrand, 2006; Hajer, 1995; Hajer & Versteeg, 2005; Lidskog & Elander, 2012; Saldert, 2017). However, there is a lack of studies that analyze discursive trends and their influence (Saldert, 2017).

Discourses change over time and by studying recent climate strategies and plans, this thesis will contribute to the research by analyzing current discourses and their potential policy implications. The aim of this thesis is to explore how current discourses in municipal climate mitigation policy may condition the ability to mitigate climate change. However, the aim is not to evaluate whether a specific discourse will lead to the needed reductions in emissions or not, but how discourses may influence the potential for success. Argumentative discourse analysis (ADA) as outlined by Hajer (1995), will be used as the method to analyze the material. In order to explore the aim, I will try to answer the following questions;

1. How is climate change framed? What assumptions are made, and what arguments are used to justify solutions?

2. What climate change discourses are present in the municipalities, and is there a dominant discourse?

3. How may these discourses influence the potential to mitigate climate change?

First, some previous research of environmental and climate change discourses globally, and in Sweden, will be outlined. Previous research will inform the analysis, although an inductive approach enables the identification of additional discourses. Secondly, the empirical data and sample selection is described, followed by the theory and method, which is based on discourse analysis. Thirdly, there will be a results and analysis section where the research questions are answered, followed by a discussions section where the findings are further analyzed. Finally, certain conclusions will be made.

2. Previous Research

2.1. Climate Change Discourses

In this section, I will present an overview of some prominent discourses found in previous studies of environmental and climate change policy, at the international level, and national and local policy level in Sweden. I have chosen to focus on discourses that have recently been found in global climate politics and in Sweden, since recent policies in Swedish municipalities are the focus of my study. The authors do not describe the discourses exactly in the same way and use different names for them, but there are similarities. The distinction between discourses is also not always clear-cut, but the following gives a summary.

2.1.1. Ecological Modernization

Studies have shown that ecological modernization (EM) often is the dominant discourse and underpins strategies of sustainable development at the global policy level, and in industrialized countries and cities with high environmental targets (Anshelm & Hultman, 2015; Dryzek, 2013; Isenhour, 2016; Lidskog & Elander, 2012; Machin, 2019; Saldert, 2017; Zannakis, 2013). EM can be seen as a part of a sustainable development discourse where economic, ecological, and social aspects should be considered. EM focuses on the economic and ecological aspects, and the goal is essentially to decouple environmental problems and economic growth so that they can reinforce each other. A key premise is that it is profitable to protect the environment, and that it is more cost-effective to take action to prevent environmental issues before they happen. Nature is a public good that can be managed and commodified, and is seen as subordinate to humans (Anshelm & Hultman, 2015; Bäckstrand & Lövbrand, 2006; Dryzek, 2013; Hajer, 1995; Lidskog & Elander, 2012; Machin, 2019; Oels, 2005; Saldert, 2017; Zannakis, 2013).

Though, there are differences in how EM is portrayed, sometimes described as "week" and "strong" EM. Both strong and week EM show a belief in technological solutions like renewable energy, green growth, and neo-liberal market mechanisms (Bäckstrand & Lövbrand, 2006; Dryzek, 2013). They also see solutions in individual consumer choices and in selling green products (Anshelm & Hultman, 2015). The "week" EM has a high focus on technological solutions, technocratic policy making, and only considers developed countries, disregarding the situation for less developed countries (Dryzek, 2013). Anshelm and Hultman (2015) call this Industrial Fatalism. The "strong" EM calls for some modification of existing economic and societal institutions, and policy structures. The market and technology are not seen as the sole solution, and it calls for more democratic and inclusive policy making. Collaboration between government, businesses, environmentalists, and scientists is seen as important. There is also attention to international justice and developmental issues. For example, rich countries should take responsibility for their higher emissions, and provide aid to developing countries. Otherwise, they cannot expect developing countries to take action (Anshelm & Hultman, 2015; Dryzek, 2013; Bäckstrand & Lövbrand, 2006; Oels, 2005). Anshelm and Hultman (2015), call this a Green Keynesian discourse. Machin (2019), shows that in the EU, the dominance of an EM discourse as a win-win for everyone disguises the fact that not everyone might benefit from it, and that countries have different potential to implement renewable technology and gain from green market mechanisms. She also points out that since the market is seen as the solution, other options are not explored.

EM has been shown to be the dominant climate change discourse in Swedish politics since the 1990's (Anshelm & Hultman, 2015; Lidskog & Elander, 2012; Zannakis, 2013). For example, in the late 2000's under the Liberal-Conservative government, a weak EM was shown by the promotion of nuclear power and green technology, a strong belief in market mechanism and growth, and by putting responsibility on individuals to make green consumer choices that would encourage cleaner production. Also, Sweden justified taking strong action on climate change as a way to be a role model for others and seen as progressive. By being a leader in green technology and energy systems, Sweden would also have an advantage in the global economy (Anshelm & Hultman, 2015; Lidskog & Elander, 2012; Zannakis, 2013).

Anshelm and Hultman (2015) also see a strong EM, or Green Keynesian discourse, in Swedish politics. Parties in opposition and environmental organizations, criticized the Liberal-Conservative government, for not taking enough action to combat climate change. In line with the strong EM, they did not think that large-scale technology was the solution. Structural change was needed, and patterns of production and consumption needed to transform. Renewable energy, energy efficiency, infrastructural changes like public transport, and building renovations were seen as the way to solve the climate issue without lowering economic growth. If production and consumption were climate friendly, this could be economically beneficial in the form of export of green technologies and new jobs (Anshelm & Hultman, 2015). In this discourse it was also criticized that Sweden has low emissions, since this calculation was made without accounting for emissions abroad due to Swedish consumption. In line with this, it was argued that Sweden needs high emission goals, and cannot rely on flexible mechanisms, in order to take responsibility for its own environmental debt. Lowering Swedish emissions should not mean increasing emissions outside its borders. By having high goals and achieving them, Sweden could be a true role model of combatting climate change (Anshelm & Hultman, 2015; Lidskog & Elander, 2012). However, Lidskog & Elander (2012) argue that EM has not led to substantial reductions in emissions in reality in Sweden, since consumption based emissions are still excluded.

EM has also been shown to be a dominant discourse in Swedish municipalities by Saldert (2017) who studied sustainability plans and strategies in Växjö and Stockholm with a focus on ecological sustainability from the introduction of Agenda 21 in the 90's up to about 2013/2014. She found that early on there was a discourse focused on that cities needed to adapt to natural processes, stop polluting, minimize consumption and use resources more efficiently. After 2005, the discourse shifted from seeing less waste and consumption as a solution, to one where waste was seen as a resource, for example for biogas and heating, and that sustainable development and economic growth could be mutually reinforcing. Another thing that has changed over time is that early on citizens were encouraged to participate in civic dialogue and to have an input on strategies, later this was replaced by public-private partnerships and citizens were seen as consumers who can take responsibility for the environment through their consumption. A problem with this shift, could be that it is not clear whether environmental or economic problems are prioritized. It is unclear whether the aim is to adapt to nature or adapt environmental solutions to the market, which could hinder the potential to reach environmental goals (Saldert, 2017).

2.1.2. Green Governmentality and Administrative Rationalism

Here, I have combined two discourses described by Bäckstrand and Lövbrand (2006; 2019) and Dryzek (2013), since they have some overlaps. This discourse is very common in politics next to EM, and Bäckstrand and Lövbrand (2019) found a combination of the two dominating

global climate politics. Dryzek (2013) writes that this discourse has been present to some extent in most developed countries. However, studies of Swedish politics do not mention this discourse specifically. Though, I would say that Anshelm and Hultman (2015) does a different division between Industrial Fatalism and Green Keynesian, where Industrial Fatalism can be likened to a green governmentality (GG) discourse or weak EM, and Green Keynesian discourse to strong EM, while Bäckstrand and Lövbrand (2006; 2019) make a division between GG and EM. Weak EM and GG have many similarities, such as the belief in liberal capitalism as the best practice and in technological solutions. Consequently, the reason why it is not mentioned in Sweden could be because those authors equate it to EM or has another name like Industrial Fatalism.

The GG discourse entails a strong belief in the modern administrative state, science and big corporations. The environment should be regulated through governmental control in the public's best interest. Though, in GG, experts are the ones who can define what the best interest is, not individuals themselves. Global legally binding frameworks are the solution. Experts can produce science that correctly explains the relationship between humans and nature, and nature can be protected through stewardship and management of resources. Science can describe environmental risks and how they should be governed. Through scientific and technological infrastructure natural processes can be monitored and managed. Geoengineering and carbon capture and storage (CCS) as solutions can be seen as a part of this discourse. This discourse is elitist, and undermines other ways of describing natural systems and other forms of knowledge, like local or indigenous knowledge (Bäckstrand & Lövbrand, 2006; Bäckstrand & Lövbrand, 2019; Dryzek, 2013; Oels, 2005). Though, within this discourse there are those who promote an inclusion of stakeholders as a way to improve the problem-solving capacity of the administrative state, who should still be the authority. Social and cultural aspects, and the local context should be taken into consideration. This is called reflexive GG, and has some overlaps with civic environmentalism and strong EM (Bäckstrand & Lövbrand, 2006; Bäckstrand & Lövbrand, 2019).

2.1.3. Civic Environmentalism

Zannakis (2013) also sees the influence of ecological justice or civic environmentalism in Sweden. This discourse is defined by a focus on participation in order to solve complex problems. Everyone who is affected by, or has a stake in environmental problems should be a part of forming solutions, especially marginalized groups. The reason for inclusion by policy makers has often been to gain support and legitimacy for actions and decisions. In this discourse there should be increased participation by civil society in existing institutions, and public-private partnerships between NGOs, businesses and government. While there is not a belief that the market alone can solve environmental problems, there is no overt questioning of capitalist structures (Bäckstrand & Lövbrand, 2006; Dryzek, 2013).

Dryzek (2013) calls this discourse democratic pragmatism and describes different forms of participatory processes, some that are more symbolic, and some that include only certain stakeholders, to processes that try to be more inclusive and also include marginalized groups. In this discourse there is also a call for experimentation, meaning that a policy should be tried on a small scale first, and get input from as many actors as possible in order to evaluate outcomes (Dryzek, 2013). In Sweden this discourse was demonstrated by a will to take moral responsibility as a rich country and try to lower its own per capita emissions without carbon sinks to meet the Kyoto protocol. Though, not all parties agreed with this, meaning that this discourse was fragile, compared to the EM discourse that had more overarching support. Later

the justice discourse was downplayed further when the center-right government allowed for carbon sinks, emissions trading and other flexible mechanisms (Zannakis, 2013).

2.1.4. Climate Justice and Radical Green Discourses

Outside the main political agenda, there is also a climate justice and other radical green discourses that have been present in Sweden. These discourses have been visible in small independent media, activist organizations, and by certain researchers and politicians (Anshelm & Hultman, 2015). There are some different strands of radical green discourses, but here I will outline aspects that they usually have in common. The need for systemic change is at the heart of these discourses. Technology and neoliberal ideas of the free market are not the solution and the economic system has to fundamentally change. The blind faith in economic growth is questioned, and a main argument is that it has become impossible to criticize economic growth as the way to solve environmental problems, resulting in limited political action. They think that power structures of patriarchy, sovereignty and capitalism are the root causes of climate and environmental issues. Capitalism is underpinned by short-term thinking, which is in disagreement with the long-term thinking that is necessary for solving climate change issues. The strategy of these discourses is that unequal power relations should be questioned and contested, and that the idea of stakeholder participation explained above often masks these power structures (Anshelm & Hultman, 2015; Bäckstrand & Lövbrand, 2006; Bäckstrand & Lövbrand, 2019; Dryzek, 2013; Zannakis, 2013).

Also, the view of nature as a resource that can be managed, needs to shift to one where nature has intrinsic value, and not just as something that is there for humans to benefit from (Dryzek, 2013). In this sense, these discourses often emphasize that our worldviews and values need to change, and if they do, the rest will also change. However, many also see the need for more direct action and activism as a way to change structures. The climate justice or radical green discourses are mostly visible outside the established political arena, still they can impact from the outside and find support in politics, especially they have been successful in portraying climate change as a global and urgent issue, and that it is linked to questions of justice (Anshelm & Hultman, 2015). For example, issues of justice are mentioned in the Paris agreement, though only in the non-binding section (Bäckstrand & Lövbrand, 2019). In Sweden, industrial fatalists only mention this type of discourse as a way to show that any path that dismisses economic growth is a step backwards from a developed and modernized country. Even big environmental organizations have been said to follow the ideas of ecological modernization as a way to influence politicians (Anshelm & Hultman, 2015).

3. Material, Theory and Method

In this section, I will first show how the municipalities were chosen and then present the empirical material which consists of policy documents and interviews. Secondly, theories, methods, and key concepts used for the analysis will be outlined.

3.1. Selection of Municipalities

The choice of municipalities was based on purposeful sampling. This means that these municipalities were chosen because I believed that in-depth knowledge and insights about climate change discourses could be obtained from them, making it possible to answer the research questions, not because they were generalizable to all municipalities (Merriam & Tisdell, 2015; Patton, 2015). The sample was based on two criteria. First, cities around the world can be seen as climate change role models, thereby inspiring other cities to take action. Therefore, my selection of municipalities was based on cities that are seen as frontrunners in climate change mitigation, meaning that they might be part of forming the climate change discourse and influence which solutions that are brought forward. Therefore, they can be seen as being information-rich in relation to my research questions (Patton, 2015). Secondly, since the focus of this thesis is climate change mitigation policy, another criterion was that the chosen municipalities have a plan or program related to this. Also, the focus is on current discourses, therefore I chose municipalities with plans that were adopted recently, that is, within the last 3 years. This excluded some municipalities who could otherwise have been potentially interesting to include due to their reputation as frontrunners in climate change mitigation. Even though the main aim is not to be able to generalize the result to all Swedish municipalities, I chose one big city, one middle sized, and one small, in order to represent some differences. The idea was that a smaller municipality is more likely to look at another city similar in size as an inspiration, and vice versa.

Every year, the environmental magazine Aktuell Hållbarhet does a ranking of the best environmental cities in Sweden. The ranking is based on answers given by municipalities themselves in a survey, and also statistics from, among others, the Swedish Environmental Protection Agency, Statistics Sweden, and Kolada (a database with key indicators for cities and regions). In 2020, a new section about climate data was also included (Aktuell Hållbarhet, 2020). Helsingborg has been placed number one in the ranking in the last four years. Helsingborg was also a finalist in Sweden for the One Planet City Challenge in 2020, and was honored for its work with consumption based emissions. One Planet City Challenge is an international challenge for cities and municipalities, arranged by WWF, in order to inspire climate change action and responsibility (WWF, n.d.). Gothenburg has been in the top 10 in Aktuell Hållbarhet's ranking since the start in 2009, and in 2015 it was named the climate city of the year in WWF' city challenge Earth Hour City Challenge. Gothenburg was chosen for its strong climate goals, innovative strategies, and its work with consumption based emissions (WWF, 2015). Gothenburg was one of the first cities in Sweden to work with consumption based emissions and has been seen as a leader in this (Hult & Larsson, 2016). Lomma municipality was placed number four in Aktuell Hållbarhet's overall list in 2020, and number two in the list for big cities or cities close to a big city, only Stockholm got a higher score. Therefore, Lomma can be seen as a role-model for smaller municipalities, who might not identify as much with Gothenburg or Helsingborg, due to different possibilities to work with climate change.

3.2. Policy Documents

The main empirical material are climate policy documents from the three municipalities. Since the focus of the thesis is climate change mitigation, only documents related to this were included. The policy texts were suitable for this study since they represent examples of climate change discourses in these municipalities, give a description of the problem, and outline priorities and potential solutions, which in turn guide decision-making (Saldert, 2017). The study is limited to the most recent plans or strategies. The chosen documents are listed below in Table 1. For two of the municipalities the studied documents are the climate and energy plan, and for one it is the environmental and climate plan. This is because municipalities in Sweden can choose to work with climate change issues in different ways (Uggla & Elander, 2009) and therefore the plans are not structured exactly the same way. Still, differences and similarities between the municipalities can be studied since all of the plans outline how the municipality should work with climate change mitigation. The documents were chosen from what was found on the municipalities' websites. For Helsingborg and Lomma, I also analyzed the programs related to other environmental areas, since this was already included in the Gothenburg program. Though, the parts relating to climate change mitigation have been studied in the most detail. I also analyzed some other policy texts related to climate change, like documents about circular economy and traffic strategies, since they were mentioned in the main documents. These were not studied in the same detail, but the analysis of them did not result in any completely different discourses being found.

Table 1: List of documents used as empirical data

Municipality:	Gothenburg	Helsingborg	Lomma
Main document:	Gothenburg city's environmental and climate program 2021-2030 (Göteborgs Stads miljö- och klimatprogram 2021-2030)	Climate and energy plan for Helsingborg 2018-2014 (Klimat- och energiplan för Helsingborg 2018-2024)	Energy and climate plan for Lomma municipality, 2021-2025 (Energi och klimatplan för Lomma kommun, 2021-2025) Including Appendix 1: In depth explanation of measures (Bilaga 1: Fördjupning av åtgärder)
Complementary material:	Collaboration for a circular Gothenburg 2030 (Samarbete för ett cirkulärt Göteborg 2030) Gothenburg 2035 traffic strategy for a close city (Göteborg 2035 trafikstrategi för en nära storstad)	Green structure program for Helsingborg 2014 (Grönstrukturprogram för Helsingborg 2014) Action plan to support a sharing economy and circular economy in Helsingborg 2020-2024 (Handlingsplan för att främja delningsekonomi	Environmental program for Lomma municipality, 2018-2025 (Naturmiljöprogram för Lomma kommun, 2018-2025)

		och cirkulär ekonomi i Helsingborg 2020-2024) Traffic program for Helsingborg, 2014 (Trafikprogram För Helsingborg, 2014)	

3.3. Interviews

In addition, semi-structured interviews with one municipality official from each municipality were conducted. A structured interview means that exact questions, and in what order they should be asked, have been decided beforehand. This allows for comparison between the interviews and means that all interviewees will answer all questions. It also limits bias. Therefore, a guide with questions was used. The interview guide can be found in the Appendix. However, a semi-structured approach allows for flexibility, for example, changing the order of questions, go deeper into a certain topic, or asking new follow-up questions or probes, if this seems relevant during the interview (Merriam & Tisdell, 2015; Patton, 2015). This means that the questions were not asked in exactly the same way and I used different follow up questions, but the main structure of the guide was followed which allows for some comparison. The questions were formulated after reading the policy documents and previous research, in order to decide what to focus on in the interviews, and to identify things that might need clarification. The interviews have provided additional information, and clarified things found in the documents. By combining the information from the policy documents and the interviews, a more comprehensive overview of the discourses could be found (Saldert, 2017), since the interviewees also represent and reproduce certain discourses. Of course, if different questions had been chosen it could have provided other results, but the questions were formulated to cover a diversity of the topics related to climate change and the open-ended structure allowed for comprehensive answers.

Key informants, people with comprehensive knowledge about the topic, were selected for the interviews (Patton, 2015). In this case this meant officials who have expertise about the municipality and its work with climate change issues, as well as knowledge about the documents. The interviews were about 1 hour long, conducted in Swedish, and online, due to the physical distance and current covid-19 pandemic. The interviews were video-recorded and then transcribed word by word, but not all pauses and short answers from me were included. Quotes were translated and used to exemplify my arguments and support findings. In the text the interviewees will be de-identified, meaning that only their role and municipality is written, not their name. However, considering that there are perhaps not that many people in the municipalities that work with climate change mitigation, it is possible that they could be identified. Consent for storing of personal information and video-recording was obtained before the interviews, and the interviewees were informed beforehand about the general purpose of the study and that they were allowed to withdraw at any time. They were also able to approve quotations before the publication of the thesis.

3.4. Theory

In discourse analysis, theory and method are usually combined (Jørgensen & Phillips, 2002). Therefore, the theories that underpin discourse analysis overall, and the theoretical reasoning behind argumentative discourse analysis, which is used as the main method, are outlined here.

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The concept of intersectionality is also explained, which will aid the discourse analysis, especially in the analysis of power.

3.4.1. Discourse Analysis

> A discourse is a shared way of apprehending the world. Embedded in language, it enables those who subscribe to it to interpret bits of information and put them together into coherent stories or accounts. Discourses construct meanings and relationships, helping define common sense and legitimate knowledge. (Dryzek, 2013, p. 9)

Discourse analysis is always based on certain assumptions about how language shapes reality. Through language reality is given meaning, and the way we construct, interpret, discuss, and analyze issues have an impact (Dryzek, 2013; Jørgensen & Phillips, 2002). Discourse analysis in this study is based on social constructionism. In social constructionism what we know is not an objective truth, rather our knowledge is based on different ways of seeing the world. Secondly, knowledge is socially constructed, meaning that it could be different and can change over time. Discourse is a part of forming knowledge, identities and society, meaning that the social world is not pre-determined. Third, social processes shape our worldview, and common or opposing views of what is seen as true or false shape knowledge. Finally, within a specific worldview certain ways of acting are seen as natural while others are unconceivable. Consequently, the way knowledge and truth is socially constructed will have different social implications. Through discourse analysis, taken-for-granted assumptions about the world can be identified and opened up for critique, which in turn could lead to a potential change (Bergström & Boréus, 2012; Jørgensen & Phillips, 2002; Silverman, 2014).

Most discourse analysis somehow build on the work done by Michel Foucault. One important concept for Foucault is power. In his genealogical work, power does not belong to specific actors, but is something that exists in social practices. Power both creates the social world, and decides how it can be talked about, excluding other ways of acting and talking (Jørgensen & Phillips, 2002). Power in discourses legitimates certain viewpoints, and invalidate others, making it impossible to make certain arguments and ask certain questions, and also limits who can participate in a discourse (Dryzek, 2013; Hajer, 1995).

3.4.2. Argumentative Discourse Analysis

Discourse analysis can have many different meanings, and building on Foucault, Hajer's definition is that it is used to understand why a certain definition of an environmental issue becomes the dominant view and seen as the truth, and why other definitions are obscured or invalidated. It is not the actual environmental problem that is of interest in a study, but how people make sense of it, how it is socially constructed (Hajer, 1995; Hajer & Versteeg, 2005). Hajer and Versteeg (2005) provide the example that dying forests do not contain something that inherently makes them an object of concern, it is how they are framed and symbolized that create this attention. In Hajer's own words;

> Discourse is here defined as a specific ensemble of ideas, concepts, and categorizations that are produced, reproduced, and transformed in a particular set of practices and through which meaning is given to physical and social realities. (Hajer, 1995, p. 44)

Though, any particular environmental issue will be made up by many different discourses, since the discussion around the subject involves many different actors. Drawing on social psychology and social-interactive discourse theory, Hajer (1995) adds an argumentative part

to Foucault's discourse theory, and argues that subjects have the agency to both produce and transform discourses to a certain extent. Therefore, an argumentative discourse analysis (ADA) of political texts should to try to show how actors try to define a certain problem. It is also possible to study how actors reproduce a certain discourse to maintain their position, or how they manage to change it. Furthermore, a new political discourse can change how a problem is perceived. Discursive interactions (language in use) can change identities and interpretations and thereby discourse can spur political change (Hajer, 1995). ADA combines the view of discourses as constitutive in politics with the view that actors can interpret, create, and reproduce discourses. Though, while all humans have agency to act, the level of agency depends on the social setting which can both limit and empower agency. Policy discourses empower some actors and disregard others. Therefore, social power structures should also be analyzed (Bäckstrand & Lövbrand, 2006, Hajer, 1995; Hajer & Versteeg, 2005).

To combine the view that certain understandings can be fixed, while actors also have some power to change it, Hajer (1995) uses the key concept of storylines. Actors can combine the many different discourses that make up an environmental problem by using storylines "…to give meaning to specific physical or social phenomena." (Hajer, 1995, p. 56). Storylines can be used both to reinforce the dominant discourse, while new storylines that combine other discourses can be a way to confront it. Though, power relations in many cases mean that people do not recognize something as a dominant storyline, rather they see it as the normal way to speak about something. Storylines, like metaphors, can be an effective political tool to overcome conflicts about a phenomena, and reach discursive closure, which means that a complex issue is simplified and reified in order to reach common ground. All uncertainty and conditionality is gone and the more people who use this storyline, the more undebatable it becomes (Hajer, 1995).

> Argumentative discourse analysis holds that the power of storylines is essentially based on the idea that it sounds right. This should not be misunderstood as a purely cognitive process. Whether something sounds right is not only influenced by the plausibility of the argument itself, but also by the trust that people have in the author that utters the argument and the practice in which it is produced and is also influenced by the acceptability of a story-line for their own discursive identity. (Hajer, 1995, p. 63)

The second key concept in ADA is discourse-coalitions. Discourse-coalitions can be defined as the way actors combine practices that before were separated. An example of this is ecological modernization, where the previously oppositional areas of environmental regulation and economic growth are combined (Hajer, 1995).

3.4.3. Intersectionality

It has been argued that discourse analysis of environmental policies could be improved by a higher focus on power (Leipold et al., 2019). Therefore, intersectionality was used to aid the analysis of how power relations come about and interrelate in climate change policy. Intersectionality stems from feminist studies, but looks at how different socially constructed categories like gender, class, nationality, age, and human-nature relationships, interplay and how this impacts power. Climate change strategies can reinforce or serve to challenge structures of who is seen as responsible for taking action, or who is seen as vulnerable. It is also a way to see what is considered normal or unnatural. Intersectionality can help to criticize power relations and institutional practices that relate to climate change, thereby enhancing the analysis of how climate change is understood. Furthermore, intersectionality is a way to find

and include marginalized knowledge that is perhaps not usually included in climate change policies. Finally, it can be a way to see how nature is described and how power structures work to objectify nature (Kaijser & Kronsell, 2014).

3.5. Method

Argumentative discourse analysis outlined by Hajer (1995) was used as the method since it was developed with environmental policy issues in mind. One strength of using ADA in environmental policy analysis is that it can help to see how people make sense of a complex issue like climate change mitigation, which involves both environmental and social systems. In politics this is an issue that is often contested and struggles appear over how it should be implemented and interpreted. ADA recognizes that policies are products both of language and the institutional setting. A policy is never neutral, but is shaped by conflicting discourses, meaning that policy discourses support certain viewpoints and specific actors (Bäckstrand & Lövbrand, 2006; Hajer, 1995). Another aspect that discourse analysis can highlight is how nature is described, and the human-nature relationship. For example, nature can be described as something separate from humans that we can manage, as something we should preserve and that humans have stewardship over, or as having intrinsic value (Dryzek, 2013; Hajer & Versteeg, 2005).

One commonality in discourse analysis of environmental problems is also to find power relations that shape the dominant discourses of the environment and sustainable development, and how certain actors use their power to influence the discourse (Bäckstrand & Lövbrand, 2006; Hajer & Versteeg, 2005). Furthermore, which solutions that are brought forward depend on who is seen as responsible for taking action and who has agency to do so. For example, it can be individuals, government, or experts. Discourse analysis can also help to highlight marginalized discourses that would possibly lead to other policy alternatives (Bäckstrand & Lövbrand; 2019; Dryzek, 2013; Feindt & Oels, 2005; Hajer & Versteeg, 2005). In summary, discourses shape what solutions that are brought forward and what can be discussed in politics. Since the aim of this thesis is to explore how discourses may condition the ability to mitigate climate change, ADA serves as a suitable method since it enables an analysis of arguments, viewpoints and power relations that represent a certain discourse. In turn, this means that dominant discourses can be found, and the impact of these discourses can be analyzed.

There is no strict methodological framework for ADA, which is often the case in discourse analysis, rather the following can be seen as sort of analytical tool-box, based on discourse analysis, intersectionality, and my interpretation of Hajer's (1995) definition of ADA, which will aid a critical analysis of the discourses and to answer the research questions. This was inspired by how Bäckstrand and Lövbrand (2019) developed their methodological framework. As a first step, the policy documents and the transcriptions of the interviews were read through in order to get an overview of the material. The next step was coding. As for all methods in qualitative research, it usually starts with some form of coding (Jørgensen & Phillips, 2002). The coding was done for each municipality separately. To do the coding, the documents and interviews were read through several times and sections were highlighted according to the questions in Table 2, which were based on argumentative discourse analysis and intersectionality. The highlighted sections were then placed in the coding scheme. The complementary material was read with the same coding in mind, but they were not read through as many times as the main documents and the interviews.

Table 2: Coding scheme to identify discourses

Questions	Gothenburg	Helsingborg	Lomma
How is climate change framed and understood?			
How are viewpoints and solutions justified? What type of arguments are used to legitimize actions and strategies?			
Are capitalist structures questioned?			
How is nature described?			
Who is assigned agency and what power relations are visible?			

After the coding, the findings were sorted into themes, which means that parts of the texts were put into different categories. By going back and reread, more examples of a theme can be found (Jørgensen & Phillips, 2002). The texts have been read through during different stages in the thesis work in order to see if something was missed or if something could perhaps be interpreted differently. After this, ADA was used to relate the themes to storylines and discourse coalitions, and thereby find different discourses. At this stage I was aided by looking at how the problem is defined and what concepts and categories were used to frame climate change mitigation. What is consistent in the arguments made? Are different arguments and ideas combined? Who has agency and in what way? This was also related to previous research and how discourses are described there. By looking at in what way and how often certain storylines appeared it was analyzed how dominant the found discourses were. Intersectionality also aided the analysis of power structures and human-nature relationships by keeping attention to perspectives that were missing (Kaijser & Kronsell, 2014). In this way the dominant discourse/s were identified.

3.6. Reflexivity and Validity

Discourses are related to the historical, cultural, social and political context in which they emerge (Hajer & Versteeg, 2005). Though, it goes beyond the scope of this thesis to include all of these perspectives. For example, the historical development of all of the discourses is not explained in detail since the focus is on current discourses. Also, the political, cultural and social context in the specific municipalities probably effects which discourses that appear, but I have chosen not to focus on this, since the aim is not to explore why these discourse appear, but which discourses that are visible and what impact they could have. The current ideas in global climate change mitigation policy will be considered to some extent in the discussion, for example, that global and national discourses probably influence which discourses appear at the local level.

The policy documents are of course written in a specific way and cannot be said to represent every framing or opinion of climate change mitigation in the municipalities. However, they are the main documents related to this, therefore the can be seen as the main way the municipalities aim to work with climate change mitigation. Moreover, the interviews can be seen to give some additional perspectives even if the interviewees mostly talk in their professional role. A limitation is that I am only exploring discourses within the municipality, while a study of how other actors frame climate change could have added further insights. Another option could also have been to compare the found discourses to policies within the municipality that deal with other things than climate change mitigation, to see if conflicting discourses were found there. Though, considering the limited time frame, I decided to focus only on climate change mitigation discourses within the municipality. Hopefully, this also allowed me to do a deeper analysis.

In line with social constructionism the researcher's own assumptions, scientific background and the social context, construct the study and influence what answers are found to the research questions (Bergström & Boréus, 2012; Silverman, 2014). As a Swedish researcher doing discourse analysis in Sweden, I am a part of the Swedish cultural and social context, meaning that I share many of the taken for granted assumptions of what is seen as true. Therefore, I might identify something as just common sense rather than as a discourse which is socially constructed and therefore could be different. Though, by developing the theory and method clearly and be open with the interpretations I make and how, I can analyze the material with the theory and method as a guidance. Following a specific theory and method enables distancing from the taken-for-granted, while at the same time recognizing my role as a researcher. Furthermore, it is important to remember that the aim is not to present any discourse as right or wrong. Rather, it is to find dominant taken-for-granted discourses and analyze what implications they could have. Arguments for this will be supported by earlier research, concepts, and theories, which enable a critical analysis of the discourses. Thereby, the social and political consequences of certain discourses can be discussed (Jørgensen & Phillips, 2002).

Furthermore, some argue that by saying that everything is socially constructed and dependent on the context, what meaning can science have if it cannot find the truth (Jørgensen & Phillips, 2002)? Though, the point of saying that something is socially constructed is not to claim that things like climate change or biodiversity loss is not real, the point is that people can interpret and understand these phenomena in very different ways (Dryzek, 2013). Consequently, I do not claim to present the result as a given truth, and there might be other ways to interpret the material. The main aim of the thesis is to analyze the potential implications of dominant ways of portraying climate change, and the potential for doing it differently, not to present the true way of describing it. Finally, this is an interpretation which is grounded in a scientific study based on relevant theory and method which gives validity to my study, which can hopefully aid future studies in this area, and be of help for municipalities when developing climate change mitigation policy.

4. Results and Analysis

In this section, the result of the document and interview analysis is outlined. Here, the research questions will be answered by exploring the framing of climate change, what assumptions and arguments that are made, and by analyzing what discourses that appear.

4.1. The Framing of Climate Change and Economic and Environmental Win-Win Arguments

All of the municipalities frame climate change in a similar way, as being caused by humans, and as one of the biggest challenges we face as a society, which has already caused sea level rise, increased the number of extreme heat events, and changed precipitation patterns. The main goal is to reduce emissions to keep in line with the Paris Agreement and Agenda 2030. Reducing emissions through renewable energy and other technological solutions is important in all three municipalities, while all of them also find it important to change behavior and lower the amount of car travel for example, and not just switching to renewable fuels (Gothenburg, 2021a, Helsingborg 2018; Lomma, 2020).

Win-win arguments between environment and economy are present in all of the plans and in the interviews. In Helsingborg this can be seen by how it is argued what type of consequences the plan will have;

> Through the climate transition, we are helping to reduce global greenhouse gas emissions, which is economically beneficial compared to the costs to deal with the effects of climate change if we do not reduce emissions enough. It will be more expensive to implement measures, the longer we wait. (Helsingborg, 2018, Appendix 8, p. 1)

Also, it is stated that a climate transition will create more jobs and strengthen the market, and reducing energy consumption is promoted both as a way to lower environmental impact and reach economic gains. Preserving ecosystem services is also promoted as helping to improve the natural environment while being economically beneficial (Helsingborg, 2018). In Lomma, it is said that energy efficiency also means lower costs besides the environmental benefit, and that it is cheaper to change the energy system now rather than later.

> It is important to underline that energy and climate work is profitable on many levels. Efficient energy usage and changing the provision of energy is often economically profitable. (Lomma, 2020, p. 12)

In the interview with Lomma it was also argued that "The reason for wanting to increase energy efficiency is both environmental and cost related" (Lomma Interview). Getting employees to travel less by car and following green building standards, are also given as examples of things that are both environmentally friendly and cost effective. Taking strong measures is thereby justified by explaining that it will also be economically beneficial. In Gothenburg, there is also some recognition that the market has to change to some extent. In the interview in Gothenburg, market driven climate action was mentioned as one factor for success, since it will take huge costs to transform, for example, to switch to renewable energy. "How do we create business models that make it reasonable for businesses to make these investments?" (Gothenburg Interview). In Helsingborg, it is also pointed out that the market needs to change to support renewable energy (Helsingborg, 2018).

Actions are also justified by a circular economy perspective, though more prominent in Helsingborg and Gothenburg. Circular economy is described as a way to create an economy that takes its starting point in natural cycles where resources should be circulated in loops instead of wasted, consequently lowering environmental impact, while at the same time increasing economic value (Helsingborg, 2018; Gothenburg, 2021a).

> Circular economy is inspired by natural cycles, where waste accumulated in one process is used as a resource in another, and is thereby reintroduced into the system. Through a transition to a circular economy we can save finite resources, while at the same time creating significantly higher economic value from the resources used. (Helsingborg, 2018, Appendix 8, p. 10)

In Helsingborg, the win-win reasoning behind this concept is clearly shown in the sentence "Through a sharing economy the material welfare can remain, while consumption decreases" (Helsingborg, 2018, Appendix 8, p. 10). In Gothenburg it is written;

> Resource efficient, non-toxic, and innovative purchasing and procurements, more reuse and more sharing of products, do not only lower resource usage, and environmental and climate impact, but also the city's costs. (Gothenburg, 2021a, p. 37)

This shows a strong EM since economic growth is not rejected, but economic models need to change so that ecological perspectives are taken into account and natural resources are not over-consumed (Anshelm & Hultman, 2015). Helsingborg has a circular economy action plan, and Gothenburg has done a report as a step towards implementing a strategy for a circular transition of Gothenburg, which shows that this storyline is quite influential in these municipalities (Gothenburg, 2021b; Helsingborg 2020).

4.2. A Mix Between Being a Role Model, Facilitation, and Regulations

In all of the municipalities it is important to be a frontrunner and leader in climate change mitigation, and in this way inspire others to take action. For example, that they should lower emissions faster than the global or national rate.

> The goal for the program is that Gothenburg should transition to an ecologically sustainable city by 2030. This means that Gothenburg should be one of the most progressive cities in the world when it comes to preventing and addressing environmental and climate change issues. (Gothenburg, 2021a, p. 8).

> According to one of the prioritized goals in the city, Helsingborg should be a leader within environmental and climate issues, which means that we sometimes choose to have higher ambitions than agreements made at the national political level. (Helsingborg, 2018, p. 4).

> Lomma municipality is at the forefront of environmental work, and has very good prerequisites in order to continue to be a leading actor in mitigating climate change. (Lomma, 2020, p. 4).

By using good examples they should show the way, which was also highlighted in the interviews. For example, in Helsingborg it was stated that "Municipalities should aspire to set a good example, and be a frontrunner" (Helsingborg Interview), and in Lomma it was argued that;

> The municipality is a very important role model. They should take the lead. What the municipality does is visible for others. For example, what the municipality builds, and what type of transport we use is visible. (Lomma Interview)

The solutions presented are often a mix between making it easier to use more climate friendly alternatives, and rules and regulations that make it harder to use alternatives which are harmful to the environment. For example, increasing opportunities for biking, car-pooling, using electric cars, and taking public transportation, while at the same time making it more expensive to park your car in the city. Another example is having waste taxation. They can also remind and inspire organizations, schools and businesses to reduce their climate impact and change their behavior (Helsingborg, 2018; Gothenburg, 2021a; Lomma, 2020). In the Gothenburg interview it was stated that "We have a responsibility to offer bike lanes and public transport. It is a way to create opportunities for the citizens." (Gothenburg Interview). In the Gothenburg program it is written;

> Gothenburg city continually develops and uses different types of regulations like congestion tax, pricing and rules for parking, environmental zones and car free inner city zones, as well as efforts to change behavior. (Gothenburg, 2021a, p. 41)

Facilitating measures, consultation and education for citizens are seen as important ways to influence lifestyle changes and changes in consumption patterns (Gothenburg 2021a). For example, it is stated;

> Gothenburg city should contribute with useful tools, communicate with, and give advice to people in Gothenburg and civil society organizations about what they can do themselves to contribute to the transition to a sustainable society. (Gothenburg, 2021a, p 36)

Moreover, in all of the interviews it was emphasized that the municipality cannot force people to do certain things or change their behavior, rather the focus should be on making it easy to choose sustainably. For example, in Lomma it was argued that "When it comes to consumption, we cannot force citizens to consume in a certain way. How they consume is a free choice." (Lomma Interview). At the same time, the interviewees also thought that perhaps stricter rules are necessary and that facilitating and informational measures taken so far have not led to substantial changes in behavior. For example, in the Helsingborg interview it was pointed out that;

> Emissions reductions are going way too slowly. We do not stop using cars. Over half of all journeys in Helsingborg are still made by car. …We have worked quite a lot with trying to make it easier for those who bike and take public transport, but we haven't really made it harder for those who travel by car. We work with carrots and not sticks. In the end both are perhaps needed to reach the emissions goal for transportation. For example, if we would close the city center for car traffic, what would happen then? (Helsingborg Interview)

It was also argued that citizen behavior is a sensitive question politically, in my interpretation meaning that politicians do not want to be too hard in restricting citizens because this can impact voting negatively. Thereby, the focus in the plans is mostly on how the municipal organization itself can become more climate friendly and be a true role model, since the belief seems to be that this will make citizens and other actors more climate friendly as well. Though, in Gothenburg it was pointed out that;

> We don't think that we can only work with these facilitating measures…It is also important to dare use some stronger policy instruments and I think this can be seen more and more. (Gothenburg Interview)

All of them also base their plan or program in international and national agreements and goals, and find it important to work with climate change in order to follow these goals. Having measurable goals based on models is also important. In Lomma, it is more highlighted that it is important to have the plan as a way of following the law of having an energy plan, and that energy provision is an important issue.

> The plan should steer the municipality's work with provision, distribution and usage of energy, thereby fulfilling the law on municipal energy planning. (Lomma, 2020, p. 9)

The way to measure whether goals are reached or not, is by calculating emissions in a standardized way and see how much, or if they have been lowered, and by counting the increase of fossil fuel free vehicles, or the amount of transportation made sustainably for instance. Also new regulations and policy instruments at the national level are often seen as necessary (Helsingborg, 2018, Gothenburg, 2021a; Lomma, 2020). This focus on laws and measurable goals shows the influence of a GG discourse (Bäckstrand & Lövbrand, 2006).

4.3. Collaboration, Knowledge-Making and Assigned Agency

Collaboration, though mostly within the municipality, or with other municipalities, business and academia, is important to find solutions and facilitate implementation, and these actors were also partially involved in the making of the plans. In the Helsingborg interview it was said that;

> We are better at cooperating on the climate issue, both across municipal departments and municipal companies, but also trying to involve external businesses, organizations and citizens in the climate work. (Helsingborg Interview)

In the Lomma interview broad collaboration within the municipality was also highlighted and that it is important to include everyone who works with environmental issues, but also with other municipalities through networks like Klimatkommunerna.

> We are a part of the network called Climate Municipalities (Klimatkommunerna), with cities that are frontrunners in energy and climate work, which is important for collaboration. We also had a close collaboration with the municipal energy company, who are experts in this area, provides energy and makes sure it is fossil free. We did not have that many external collaborations. On the other hand, we worked very intensely to have broad internal cooperation. (Lomma Interview)

In Gothenburg, broad collaboration is also emphasized;

> In order to reach the goals, collaboration between Gothenburg city and businesses, citizens, academia, other cities and other actors is a prerequisite. (Gothenburg, 2021a, p. 7)

Citizens are less often seen as collaborators and more as receivers of knowledge and information, lowering their agency as producers of knowledge. Though, sometimes citizens are referred to as co-creators of knowledge. In Gothenburg, collaboration within the municipality is important, and also important that external actors can be invited when necessary for implementation of the program. The strategies in the program are meant to spur cooperation and important actors in all strategies should be found in order to create possibilities for co-creation. "External actors from business, civil society, and academia, can and should be invited to the strategies when necessary." (Gothenburg, 2021a, p. 33).

The seven horizontal strategies will be very central for collaboration. Of course, within the municipal organization, but there we have also said that we should be open to inviting other actors. So that we can see who we need to have a dialogue with. (Gothenburg Interview)

In Lomma, when referring to the municipal Waste plan, it is stated that citizens, businesses, organizations, and municipal departments and companies have to be involved, and in the Environmental Policy it is written that the municipality should "cooperate and have an open dialogue with citizens, businesses, and organizations to improve the environment" (Lomma, 2020, p. 69, Appendix). In Helsingborg, it is written;

Through co-creation with citizens and departments, the municipality can offer and develop tools, education, and activities that can increase knowledge in order to decrease consumption based emissions. (Helsingborg, 2018, Appendix 8, p. 13)

In the Helsingborg interview, a new initiative for a local climate deal involving many actors was also mentioned;

We have recently launched a local climate agreement, directed at businesses, organizations, citizens, and children. The plan is to create a platform where we can exchange experiences, network and showcase good examples, and where the municipality can support the transition. Also, for businesses, organizations, and citizens who choose to join, it should be seen as an agreement that they have to follow. The actors who sign the agreement support the municipality's climate ambitions and describe how they plan to contribute. (Helsingborg Interview)

This can also be seen as a discourse where business, organizations, and citizens have more agency to come up with their own solutions and contribute to knowledge-making. It is a sign of a strong EM where inclusive and collaborative governance is seen as important and agency is given to many actors (Anshelm & Hultman, 2015; Bäckstrand & Lövbrand, 2006; Dryzek, 2013; Oels, 2005). This can also be seen as a sign of a civic environmentalism discourse since it sees stakeholder participation as important to find solutions (Bäckstrand & Lövbrand, 2006; Dryzek, 2013). However, unlike civic environmentalism, there is no focus on including marginalized groups, and citizens are mostly represented as recipients of information and knowledge to encourage lifestyle changes and to improve the chance that they accept policies. For example, in Helsingborg it is stated that;

Informational actions directed at citizens can contribute to creating a norm around sustainable lifestyles and also increase the chance of acceptance for regulations. (Helsingborg, 2018, Appendix 8, p. 10)

In Gothenburg, biodiversity is important so that people can get the services that nature provides for us in the form of ecosystem services. "It is central in the strategy to integrate the value of ecosystem services in all economic standpoints and political considerations" (Gothenburg, 2021a, p. 40). Nature should be managed and preserved (Gothenburg, 2021a). Nature is here described as a resource for the city and its citizens that should be valued in economic terms, rather than as having intrinsic value, which is also part of the EM discourse (Dryzek, 2013). In the Gothenburg program there is a higher focus on biodiversity and other environmental factors which could be explained by the fact that Gothenburg has chosen to have an environmental and climate program while Helsingborg and Lomma have climate and energy plans. Though, Helsingborg and Lomma instead have separate environmental

programs where similar notions as those shown for Gothenburg appear (Helsingborg, 2014; Lomma, 2018).

In the interview with Lomma it was also pointed out that it is important to consider other environmental aspects in relation to climate mitigation measures and that there can be both synergies and goal conflicts. For example, wind power can have detrimental effects on nature and animals like birds and bats. Protecting nature by establishing nature reserves can be beneficial in several ways. For example, it can be good for biodiversity, ensure continued storage of carbon, and provide cleaning of land and water. In Helsingborg, preserving and creating more green spaces is also justified by its ability to increase ecosystem services and biodiversity, in addition to storing carbon. Here, nature is perhaps valued more in its own right and given some agency, though these things are also beneficial for humans. In other parts of the Gothenburg program nature is sometimes given more agency and intrinsic value in line with a radical green discourse (Dryzek, 2013). This is shown by writing "An ecologically sustainable city – for nature, climate and humanity" (Gothenburg, 2021a, p. 8), and "Also, people, animals, and nature in other countries should not be affected negatively by our lifestyles." (Gothenburg, 2021a, p. 8). This type of discourse is not shown in Helsingborg and Lomma in the same way.

4.4. Some Signs of a Justice Perspective

There is a recognition that also consumption based emissions need to be reduced, both from the municipal organization and from citizens in all of the municipalities. All of them have goals related to this. In Helsingborg this is also seen as extra important since consumption based emissions are not included at the national level "I think it is important that municipalities step up here since we do not have consumption-based goals at the national level." (Helsingborg Interview). They also write that Sweden's ecological footprint is one of the highest in the world and that;

> In order to lower GHG emissions and the ecological footprint, changed lifestyles with less air travel, greener food consumption, and different consumption patterns, are needed. Earlier, technological innovations were seen as the solution, now there is a higher recognition that we need to change our lifestyles. (Helsingborg, 2018, Appendix 5, p. 3)

Gothenburg writes;

> The Paris Agreement says that sustainable lifestyles and sustainable consumption and production patterns play an important role in tackling climate change, and that developed countries should take a leading role in working with these questions. Therefore, we include both geographic (territorial) emissions and consumption based emissions, in order for Gothenburg's goals to follow the Paris Agreement. (Gothenburg, 2021a, Appendix 1, p. 12)

In Lomma it is also recognized that consumption based emissions are important to include; "Total GHG emissions from consumption are higher than those from territorial production of goods and services" (Lomma, 2020, Appendix, p. 14).

This is part of the strong EM discourse, since it recognizes that richer countries need to take responsibility for their emissions in other countries (Anshelm & Hultman, 2015; Bäckstrand & Lövbrand, 2006; Dryzek, 2013; Oels, 2005). Like Zannakis (2013) writes in the case of Swedish policy, this also shows an influence of a climate justice discourse where it is understood that Swedish emissions due to consumption radically has to change.

However, there is no acknowledgement in any of the municipalities that consumption patterns vary between groups of people within Sweden, and most of the time citizens are referred to as a universal category. Exceptions are in Helsingborg when mentioning that a person's economic situation might decide whether you a buy a more environmentally friendly car or not, and that children and young people should be encouraged to bike more in order to create a climate friendly behavior at a young age (Helsingborg, 2018). For Lomma it is only when referring to biking that it is argued that biking should be available for a variety of users (Lomma, 2020). The clearest recognition of differences between groups of people was in the interview with Gothenburg where the interviewee pointed out that actions taken to spur behavior change can affect people differently, and that this should be kept in mind when implementing the plan. For example, that higher taxes on fuels can lead to protests like those in France, and that before implementation it should be considered how something can affect different groups.

> I think it is vital to have a just climate transition in order to not have a backlash in the form of citizen protests. (Gothenburg interview)

In this sense, pointing out that justice is important also at the local level. This shows signs of a climate justice discourse since it is recognized that climate change mitigation affects people differently depending on social factors like economic inequality, and that it will not be successful if these parameters are not considered (Bäckstrand & Lövbrand, 2006; Bäckstrand & Lövbrand, 2019).

In Helsingborg, arguments are also made that compensating measures for climate change in other countries could have negative effects on social aspects or other environmental issues, and that these type of measures have to be locally anchored and externally monitored to prevent these problems. Also, considering batteries for electric cars it is mentioned that these often need cobalt, which is associated with child labor and bad working conditions (Helsingborg, 2018). In Lomma, a similar perspective was also shown in the interview, in regards to electric cars and the production and recycling of batteries, by saying that;

> It is related both to other environmental and ethical aspects in the mineral extraction. Often the solution for this is saying that the batteries can be recycled, and that there is a method for this, but at the moment this method does not work on a large scale and it is not cost effective enough to be employed. (Lomma Interview)

This shows a climate justice discourse since it is acknowledged that our use of resources could have a bad effect for people and the environment in other countries. In Helsingborg, Naturskyddsföreningen (Swedish Society for Nature Conservation) and Amnesty are provided as sources here which shows that the presence of this discourse is probably influenced by organizations that are more commonly associated with this type of discourse (Anshelm & Hultman, 2015; Bäckstrand & Lövbrand, 2006; Bäckstrand & Lövbrand, 2019; Dryzek, 2013).

4.5. Transition and Transformation Storylines

In Helsingborg and Gothenburg there is also a transition or transformation discourse throughout the plans. In Swedish, the word "omställning" could mean either transition or transformation, therefore, I use both words here. These terms and what they mean will be discussed further in the discussion section below. For example, this discourse is shown by the following sentences in Helsingborg;

> Work for a transition to a circular economy and sharing economy, both in Helsingborg and in the municipal group. (Helsingborg 2018, p. 10)

> Transition to sustainable energy solutions. …Transition to sustainable consumption. …Transition to a sustainable transportation system. (Helsingborg 2018, Appendix 5, p. 1-3)

The words "transition/transformation", "the transition/transformation", or "to transition/transform" are written 27 times in the Helsingborg plan, the document is 66 pages long (Helsingborg, 2018).

In Gothenburg the term is used more to refer to a transformation of society in general, and that this change has to be faster. The term is used frequently through the whole program. The words "transition/transformation", "the transition/transformation", or "to transition/transform" are written 44 times, and the plan is 86 pages (Gothenburg, 2021a).

> Gothenburg city should lower its emissions at a higher rate, and use all available tools and policy instruments to power the transition/transformation of society. (Gothenburg, 2021a, p. 18)

> The program sets the foundation for a transition/transformation to an ecologically sustainable city in 2030… (Gothenburg, 2021a, p. 5)

In the Gothenburg interview it was argued that transition/transformation used to be a leftist discourse but this is now mainstream thinking across all parties, and the benefits of this term was pointed out;

> What I think is good with this concept is that it signals that this is not something that can be done in the blink of an eye. This is not something that just requires small adjustments. If we are actually going to reach these goals it means transformation. (Gothenburg Interview)

This shows a certain level of a radical green discourse since it is recognized that there has to be systemic changes and that long term thinking is needed (Anshelm & Hultman, 2015; Bäckstrand & Lövbrand, 2006; Bäckstrand & Lövbrand, 2019; Dryzek, 2013). In Lomma, a transition is mentioned one or two times in relation to the energy system, meaning it is less visible than in Helsingborg and Gothenburg. It is difficult to say why this term is not used in Lomma. Cairns and Krzywoszynska (2016) write about the emergence of the water-energy-food nexus term as a buzzword in the UK, and that buzzwords are often characterized by ambiguity. They write that the ambiguity made it difficult for policy makers to use the nexus term to support decision-making, and that many civil servants mainly saw it as an academic term not adapted to policy (Cairns & Krzywoszynska, 2016). Linnér and Wibeck (2020) also write that transformation is an ambiguous term that is understood very differently in different settings. Perhaps, the ambiguity of transformation and its use as an academic term, could be one explanation why it is not used in Lomma. Another reason could be what was mentioned in the Gothenburg interview, that transformation traditionally is seen as a leftist discourse, and perhaps this view is still present in Lomma, meaning that it could be a contested term politically.

4.6. Dominant Discourses in the Municipalities

Considering the recognition that the market needs to change to some degree while still promoting economic growth, the focus on collaboration and participation of a variety of

actors, and instances of an international justice perspective, the most dominant discourse in the plans is a strong EM (Bäckstrand & Lövbrand, 2006; Dryzek, 2013). A green governmentality discourse is also pretty strong in the municipalities. This is shown by the belief in the steering role of the municipality in setting rules and regulations, which gives more agency to the municipality than other actors. The reason why citizens are given less agency can also be the influence of the GG discourse, since business and academia are seen more as experts and as having valuable knowledge. It is also important to have measurable goals, and to follow international and national agreements. This type of more elitist and scientific discourse is in line with GG and a weak EM (Dryzek, 2013). Though, considering the focus on including different stakeholders as a way to find solutions, and the consideration of certain social aspects, it is also like the reflexive GG, which is similar to strong EM, further showing the dominance of strong EM (Bäckstrand & Lövbrand, 2006). It could be said that the municipalities have a mix of reflexive GG and strong EM, where the municipality should have the steering role, while at the same time, citizens and businesses should take their own responsibility and be active collaborators. This could signify a bit of a struggle between GG and EM, where it is not entirely clear how much the municipality should steer and how much should be up to other actors and the market. This conflict was visible in the interviews where it was said that the municipality cannot decide how citizens should live while they also saw the need for stronger rules and regulations to deal with certain problems.

Climate justice and radical green perspectives do show up sometimes as shown above, though the capitalist economic system, patriarchy, or unequal power relations are never openly questioned. Therefore, I conclude that it fits more within a strong EM and GG, since the justice perspective is mostly that Sweden should take responsibility for its higher emissions as a developed country, and the inclusion of stakeholders is partial. The win-win economic and environmental arguments, strong belief in technology, and describing citizens as consumers that need to make sustainable choices, are more in line with weak EM. However, the strong EM is more dominant, since it was more visible. The strong EM discourse has overlaps with civic environmentalism, but since the focus is not on marginalized groups, and citizens are seen as a homogenous group mostly receiving information, it is more like a strong EM.

An interesting finding is the transition/transformation storyline which can also be seen as a relatively new discourse, at least within politics. This is probably influenced by the transformation language in Agenda 2030, and the emphasis on transformation to solve environmental problems that has been common in academia, policy-making, and media in recent years (Linnér & Wibeck, 2020). In Helsingborg and Gothenburg this storyline is quite prominent, and therefore the potential influence of this discourse will be discussed further below. Another interesting finding is the circular economy storyline which can be seen as a new storyline within the EM discourse. The circular economy has been promoted as a solution to environmental and resource problems across the EU and in Sweden lately by policy makers, NGOs, and academia. The EU adopted a circular economy plan in 2015, and Sweden followed in 2017 with the Circular Economy report "From a value chain to a value circle" (Johansson & Henriksson, 2020). In 2020, the Swedish government also released the strategy "Circular Economy – strategy for the transition in Sweden" (Regeringskansliet, 2020). The popularity of this concept can explain why it is also included in the municipalities, and it could mean that a CE discourse will become more and more influential. Interesting with CE is also that it is promoted both within EM, and in more radical green discourses (Anshelm & Hultman, 2015). Therefore, it is interesting to discuss its potential as either reinforcing EM or as being a counter-storyline.

5. Discussion

In this section, I will explore how the found discourses may condition the ability to mitigate climate change, and influence the potential for success.

5.1. The Influence of an Ecological Modernization and Green Governmentality Discourse

5.1.1. Putting climate change mitigation higher on the agenda

In line with an EM discourse, all of the municipalities show win-win arguments between climate change mitigation and economic growth to a certain extent. Traditionally municipalities are foremost responsible for education and health care, meaning that resources need to be focused on this, and climate change mitigation might not get as much attention. Therefore, the EM discourse is often appealing for local politicians since it is a way to combine climate change mitigation and economic development in the form of new employment opportunities, perhaps making it easier to put climate change mitigation higher up on the agenda and improve implementation (Uggla & Elander, 2009). In this sense an EM discourse can be beneficial since it helps putting focus on climate change, and this can be one explanation that the municipalities show an EM discourse.

EM can also be a sign that they follow the national and global climate change discourse. As was shown in the introduction, even though Swedish municipalities are self-governed and can decide themselves how they work with climate change to a certain extent, it is traditional to follow the direction of the national government. Also, the government sets certain regulations and only offers financial support for certain actions, which probably influences the range of solutions (Granberg & Elander, 2007; Uggla & Elander, 2009). Since Swedish national policy presents an EM discourse (Lidskog & Elander, 2012), this can explain why Gothenburg, Helsingborg and Lomma do this as well. As pointed out by Hajer (1995), we often do not recognize something as a discourse or storyline because it is seen as common-sense and it sounds right, and since EM is the dominant discourse both globally and nationally it is not surprising that the municipalities use the same type of language and arguments, since it is simply seen as the legitimate way to talk about climate change mitigation within politics.

5.1.2. The potential to reduce emissions

Globally, the green governmentality discourse has been present for a long time in environmental policy and can be seen by the Kyoto Protocol for example. It was downplayed after the Copenhagen summit when this type of climate governance was questioned, since it had not lead to the expected results, and this summit was seen as a failure by many. EM has become stronger after this, though, today a mix between GG and EM can be seen internationally, where the role of the administrative state in international agreements and to monitor progress is still important (Bäckstrand & Lövbrand, 2019). This could explain why there is also a mix between these discourses in the municipalities. GG has increasingly emphasized participation, though mostly to increase the possibility of problem-solving, and the state is still seen as the authority. This could undermine the need for a justice perspective that many see as necessary to solve the climate crisis (Bäckstrand & Lövbrand, 2019). The potential for this discourse to reduce emissions remains unclear, and while the Kyoto Protocol was successful to some extent, GG has not led us where we need to be so far globally.

There is some evidence that increased economic growth and technological efficiency is related to lower emissions (Isenhour, 2016). Emissions within Swedish borders have been reduced by 29 % since 1990, between 2018 and 2019 the reduction was 2.4 %, though to reach the current Swedish goal of net zero emissions by 2045 the reduction pace should be between 6-10 % per year. It is important to note that consumption based emissions are not included in this goal, even though these emissions amounted to 82 million tons in 2018, while territorial emissions were around 52 million tons (Naturvårdsverket, 2020). Lidskog & Elander (2012) point out that even though Sweden is often seen as a frontrunner with ambitious emission goals, the framework of EM has not led to substantial reductions in emissions in reality. In 2010, reduced climate change was seen as the most difficult goal to reach of all environmental goals in Sweden (Lidskog & Elander, 2012).

Isenhour (2016), also points out problems with EM. Firstly, efficiency is not growing as fast as the economy, which means that the absolute decoupling promoted by EM is not happening, and overall the use of resources is increasing worldwide. Secondly, studies show that energy efficiency often means that money is invested in new production and consumption, leading to a rebound effect. For example, if a family saves money by higher energy efficiency in the home, they might decide to keep the temperature higher, or buy electronic devices they would not have bought otherwise, which require energy to be produced. Finally, she also mentions the problem that consumption-based emissions often are markedly higher than production-based (Isenhour, 2016).

However, in the municipalities included in this study, consumption based emissions are included and goals are not only about efficiency, which could indicate that there is a higher potential for actually reducing emissions and having a more successful EM. The inclusion of consumption based emissions also emphasizes a climate justice discourse since it takes into account the effects of local consumption in total global emissions, and it is a way to start questioning our lifestyles (Hult & Larsson, 2016). Helsingborg also recognizes the potential problem of a rebound in relation to lowered consumption. "However, for climate profit it is assumed that saved money is not spent on other climate related consumption" (Helsingborg, 2018, App 8, p. 10). Finally, Hult and Larsson (2016) point out that a focus on consumption risks putting the responsibility on individual consumers to act responsibly by getting more information, but without other societal support. This risk is important to keep in mind when working with consumption based emissions.

5.1.3. The post-political argument

One of the main points in radical green discourses is the argument that other discourses like EM or GG focus on technology and economic growth, which obscures and invalidates other potential solutions. They also make it impossible to question capitalist structures or technological innovations (Anshelm & Hultman, 2015; Bäckstrand & Lövbrand, 2006; Dryzek, 2013; Hajer, 1995; Isenhour, 2016; Lidskog & Elander, 2012; Machin, 2019; Oels, 2005; Saldert, 2017; Zannakis, 2013). Swyngedouw (2010), shows potential problems with an EM or GG discourse by explaining climate change policy as a symbol of the post-political. First, while climate change is seen as caused by modern industrialized and capitalist society, this is not seen as an integral part of capitalism, and the problem can be solved by the same thing that caused it. Secondly, there is a sort of populism where people are seen as a homogenous group, and calls are made that all of humanity have caused and will suffer from climate change. Thus, eliminating any consideration for differences and antagonisms between classes, social groups, and views of nature. The problem is seen as global and universal.

Thirdly, the solution is portrayed as one thing, namely reducing CO_2, thereby reducing any complexity. The main way in which this can be done is by making CO_2 into a commodity, again claiming that the problem can be fixed within the exact market structure that caused it in the first place. Consequently, this post-political setting excludes any radical ideas or conflicts, leaving the market and technology as the only options (Swyngedouw, 2010).

Similarly, Blühdorn (2011), writes about a politics of unsustainability where there is a high consensus that radical action is needed to mitigate climate change, while at the same time, the will to actually implement such change is lacking. He writes that this is due to a normalization of climate change, where it is now seen as a natural part of modern life. Consequently, this undermines any calls for radical change of things that have been shown to be unsustainable, like Western values, lifestyles, social and political structures, and the capitalist economic system. Instead, it is thought that technological fixes and small structural changes can solve the problem. EM discourses of technological innovation and market mechanisms, have made consumer capitalism into a part of the solution, rather than a part of the problem. Consequently, rendering climate change depoliticized. Things symbolizing modernity

> …for example, mobility, flexibility, individuality, technology, energy, travel, animal protein, and cheap consumer goods have become essentially non-negotiable; ways *must* be found to meet them. (Blühdorn, 2011, p. 38, emphasis in original)

Climate change has also been defined as a problem of limiting emissions, and keeping temperature increase below 2℃, which obscures the fact that climate change is really a problem due to social values (Blühdorn, 2011).

The municipalities show some of these signs. Capitalist structures are never questioned, and the aim is to fix the market system so that natural limits are taken into consideration while keeping economic growth, for example through a circular economy. A risk then is that business as usual is sustained since current structures are not changed enough. There is also a clear focus on reducing emissions, which could then miss the complexity of the issue. The viewpoint expressed in the interviews that politicians are reluctant to take strong measures regarding behavior, and that the municipality cannot force people to change is also interesting here in regards to Blühdorn's (2011) point that modernity cannot be questioned, which seems to be the case in these municipalities to some degree. Though, with the inclusions of consumption-based emissions, Western lifestyles are questioned to a certain extent, and the municipalities do set some rules and regulations to change behavior.

Further, as shown in the text by Kaijser and Kronsell (2014), this is also a sign that male norms like car driving are seen as common sense, and therefore politicians do not want to question them. This shows that underlying masculine norms seem to steer policy making, rendering it difficult to question this normalized behavior, in the end making policies more about finding renewable fuels, and facilitating biking and public transport, than about hindering driving. Therefore, it is important to analyze how norms guide policy making. A starting point could be to acknowledge the underlying power relations of these norms, and try to find ways to question them. We also need to start questioning and redefine how things related to masculinity and modernity like cars, technology, meat, and consumption are seen as signs of having achieved a "good life" (Kaijser and Kronsell; 2014).

There is also a tendency in all of the municipalities to see citizens as a homogenous group, which risks missing other knowledge and contesting viewpoints. For example, Bradley (2009) points out that social diversity is often not included in Sweden in relation to environmental

problems, while our society is increasingly becoming more diverse. Her study showed that what is considered environmentally friendly is usually based on a Swedish middle class behavior, though often, this group does many activities that are problematic, like owning two homes, air travel and other leisure travel, and high consumption, which is often not recognized in policy. Again showing that certain norms are taken for granted. Therefore, she argues that we need to include and encourage more perspectives in order to find new ways to define sustainable behavior, and also our relationship to nature, not just imposing the current norm in the form of education and information (Bradley, 2009). Studies have also shown that women generally have more sustainable transportation patterns, and are more willing to change their behavior, and that there are other gendered differences when it comes to consumption of goods and energy (Dymén et al., 2013; Kronsell et al., 2020).

Kaijser and Kronsell (2014) also point out that it is important to look at how several factors interact in relation to levels of emissions, for example, that higher income often means higher emissions, but that gender and age also come into play. Gothenburg and Helsingborg showed a certain recognition that people might be effected differently by climate change mitigation and that people have different possibilities to take action. An earlier study of consumption emissions in Gothenburg also showed that having an international justice perspective and including consumption emissions, had made the city more aware of local issues of justice (Hult & Larsson, 2016). However, differences between genders were not discussed in the current plans, and I did not feel that these issues were highlighted. In the Gothenburg traffic plan it is mentioned that people have different travel habits and that men travel more by car, and women more by public transport, but this was the only time I found a gender perspective (Gothenburg, 2014). Therefore, in all of the municipalities this is probably something that requires more attention than it has now, in order for the implementation of the plans to work, as well as other social differences linked to class, gender, sexuality, age, and political views. For example, Patterson et al. (2018) point to the importance of including a justice perspective and consider the viewpoints of various groups of people, in order to not have people opposing climate action. For example, finding new jobs for people if an industry is closed down. This was mentioned in the interview in Gothenburg, but this perspective could be highlighted more in the plans. Finally, engaging and involving more diverse actors as holders of knowledge, not just as receivers of information and as consumers, could be a way to avoid the problem of individualization of the consumption problem as mentioned above, since people would then have agency not just as consumers.

5.1.4. The problem of economic terms

Coffey (2016) outlines the implications of using economic terms in environmental policy, which, similarly to the arguments made by Swyngedouw (2010) and Blühdorn (2011), might delegitimize solutions that are not justified from an economic perspective. For example, the term "natural assets" implies that nature can be valued and managed in the same way as any other asset. Similarly, the term "ecosystem services" indicates that nature is there to provide services for humans. Both of these terms appear in all of the municipalities, or "natural resources" rather than "assets", but I deem the term to be similar to "natural asset". Using terms like these shows how the municipalities employ economic thinking in order to legitimize taking action to mitigate climate change. It is a form of discourse coalition, since these terms work to combine environmental concern with economic interests (Coffey, 2016; Hajer, 1995). According to Coffey (2016), this is done because the environmental policy field is dictated by neoliberalism. One reason for using these terms can be to highlight that the problem is that

the environment is not valued correctly, not that there is a problem with the economy. People who argue for this kind of thinking say that this is a way to change strategies from within, in order to find the worst ways that capitalism hinders sustainability, and try to reform these in the normal system. However, "…the distribution of wealth is not questioned, and it is not clear whether the priority is to sustain the environment or to sustain capitalism." (Coffey, 2016, p. 216). Furthermore, in the municipalities other terms are also used in relation to nature, species and ecosystems, such as "care for", "preserve" and "protect". These terms signify a viewpoint where it is not just seeing things as a resource or service that is important, while the reason for caring, preserving, and protecting is often for human value (Coffey, 2016). Though, these terms appear in relation to biodiversity and other environmental issues, rather than climate change.

The problem with this economic terminology is that it plays into neoliberalist thinking, sustains business as usual, and might limit the choice of policy measures and solutions (Coffey, 2016). Therefore, even if they are not used with the intention of promoting capitalism over the environment, which I doubt is the aim in these policy documents, avoiding these types of terms and finding new ones could be a way for the municipalities to avoid being trapped in business as usual unintentionally. More frequent use of the framing that was shown in Gothenburg when animals and nature were given agency in their own right, and not just for human benefit, could perhaps be one way. As shown by intersectional and ecofeminist studies, exploitation and mastery of nature is seen as valid as long as nature is depicted as inferior and separate to humans (especially men) and as lacking intrinsic value, similarly to how the subjugation of women or other groups is legitimized. Depicting nature as having intrinsic value is an important step to making it matter as much as economic growth (Gaard, 2011; Kaijser & Kronsell, 2014).

5.2.   The Influence of Emerging Discourses

As shown in the previous sections, EM, especially strong EM, has some benefits, but radical discourses also make some valid points about the limits of EM and GG. In Sweden, radical discourses have been marginalized compared to EM both in media and in the political debate, which is also shown in the municipalities in this study where radical discourses are not dominant. A reason for this could be that Sweden is seen as an environmental frontrunner, which makes it difficult to criticize (Anshelm & Hultman, 2015). Presenting themselves as frontrunners is also part of the discourse in the studied municipalities, which could then explain why radical discourses are not as present since they often point out that Sweden is not successful in climate change mitigation. One problem for radical discourses in Sweden has been the lack of concrete visions and examples of what society could be instead, which could also explain why it is not so visible in politics where it is important to have clear and measureable goals (Anshelm & Hultman, 2015). Like above, it is more about criticizing the dominant discourse. However, an argument can be made that it is essential to first find the root causes of the problem to be able to find the best solutions, which is often brought forward in ecofeminist studies (Gaard, 2015). Dryzek (2013) also argues that radical discourses can show why a discourse like EM needs to be radicalized.

Though, some solutions are put forward from radical discourses. One proposal is a shift to local and circular flows of goods, which is also promoted by EM discourses (Anshelm & Hultman, 2015). Another solution put forward is that of "degrowth", where production and consumption is lowered in an equal manner, in order to improve the state of the environment

and increase human well-being (Isenhour, 2016). Below, the potential of some emerging discourses to perhaps solve some of the problems with EM are discussed. Though, depending on how these discourses are framed they can either reinforce or challenge EM.

5.2.1. Radical transformation or incremental change?

Lately, the need for transformation has been widely acknowledged by many actors. For example, the Agenda 2030 has the heading "transforming our world" and the IPCC has written that transformational systemic change is needed to limit GHG emissions (Linnér & Wibeck, 2020). The term transformation is ambiguous, which can be good since various interpretations can spur innovative ideas. The discourse of transformation could possibly be a way to challenge the dominant view, but sometimes these counter-discourses lose their radical edge when they are mainstreamed into policy and practice, and some of the core ideas get lost. Especially, when the term is moved from theory to practice in policy plans, it is not explained exactly what it means, which can be a challenge for implementation. What is supposed to be transformed? Which sectors, structures or processes? What should it transform into? Who is responsible for making it happen? Can transformation be governed? These questions are often left unanswered (Blythe et al., 2018; Linnér & Wibeck, 2020; Newell et al., 2020).

Perhaps most importantly, it is often not stated who gets to decide the above. Often, the talk of a transition to a sustainable society forgets to include notions of power and distribution. It is often related to a technological or market transition, without recognizing the embedded social, political and cultural dimensions, or that power relations, institutions and values need to change as well. There is often a lack of consideration to the access that different people have to policy decision-making and how different groups of people will react to the transformation. For example, a transformation of the energy system might not be beneficial to everyone if it means higher prices, and powerful actors that might loose from this transformation could resist it (Blythe et al., 2018; Newell et al., 2020). Furthermore;

> Consensus around the need for transformation can mask plural notions about what the problem is exactly, what constitutes relevant evidence, and what, therefore, are considered appropriate solutions. (Blythe et al., 2018, p. 1214)

Accordingly, if certain viewpoints are left out, one of the ideas with transformation, which is to find radically different futures, might get lost. Also, some argue that transformation language is still used to promote business as usual. For example, by saying that the desired outcome is a "green economy" and using economic terms like ecosystem services and green growth, economic gain as the main driver is perpetuated and existing power relations remain. Though, if attention is paid to the questions above, and to the social and political dimensions of transformation, it can be a way to minimize the negative sides (Blythe et al., 2018).

Linnér & Wibeck, (2020) also point out that there is a difference between transition and transformation; "Transition originates from the notion of 'going across' from one state to another, whereas transformation connotes a 'change in form or shape'." (Linnér & Wibeck, 2020, p. 222). A transition mostly refers to technological changes while transformation involves many social practices and knowledge-making. The way transformation is framed has implications for actually achieving transformational change. Therefore, it is important that decision-makers clarify what they mean by transformation (Linnér & Wibeck, 2020).

As mentioned in the results and analysis section, Gothenburg refers to a wider and rapid transformation of the whole society, though it is not very clear exactly how this will happen and what the transformed society will look like. Though, what is probably meant is that every measure and goal in the plan means that a transformation is needed. This can be likened to what Linnér and Wibeck (2020) call a quantum leap transformation and is similar to Agenda 2030, and like with Agenda 2030, it can be questioned whether the proposed actions will actually lead to the radical transformation indicated. In Helsingborg, it is more of a gradual transition of different parts of the system, which makes it more clear what it is that should transform. However, this is perhaps more in line with a transition since it is more of a step by step change to another state, rather than a fundamental change in form. Also, it is the energy system, transportation, and consumption patterns that should change rather than social or political structures. Consequently, the transformation discourse in Gothenburg is perhaps more likely to spur the radical changes that many say are needed, and provide opportunity to imagine something completely different. As was mentioned in the interview it is also a way to signify that major changes are needed and that they need to happen fast (Linnér & Wibeck, 2020), while the Helsingborg transitions are perhaps more clearly described.

In both cases, it is never the capitalist system that needs to transform, which means that business as usual might be promoted to some extent since this discourse essentially makes it impossible to question economic growth. Though, the circular economy strategy could be a stepping stone to transformation. A clearer explanation of what the vision is for the transformation could be beneficial. For example, looking into how political and social systems might need to change, as well as norms and values. Finally, a closer investigation into power dimensions of transformation and how different people will be effected by it is needed. Otherwise, it risks just being a buzzword and furthering insufficient incremental change (Blythe et al., 2018; Linnér & Wibeck, 2020; Newell et al., 2020). The transformation storyline then has the potential to confront the dominant discourse, but if it loses its core meaning of fundamental change, it risks influencing a discursive closure where the transformation needed for climate change mitigation is simplified and opposing views are silenced (Hajer, 1995).

5.2.2. Circular economy as potential for transformative action?

Circular economy (CE) could potentially be a way to confront the dominant economic growth discourse since it promotes a circular economy instead of the unsustainable linear one (Anshelm & Hultman, 2015). Through reuse, remanufacturing and refurbishment, and combustion and landfills as the last option, energy usage can be optimized and materials can retain their value as long as possible in the circular economy. Additionally, renewable energy should be used, and people should share products instead of owning. The idea is that this would reduce environmental impact, create new business opportunities, and spur a sense of community and collaboration through the sharing economy (Johansson & Henriksson, 2020; Korhonen et al., 2018). However, limits to the CE concept have been identified and the net environmental benefits have to be analyzed in each case. For example, biomaterials and biofuels are promoted in this discourse, though, these still face issues. Moreover, the same as with increased energy efficiency explained above, increased economic efficiency in CE could lead to a rebound effect due to increased consumption. Further, all CE activities still require energy and as long as the economy grows this will lead to environmental impacts and resource depletion, meaning that even though the impact will perhaps be slower, the problem will not

go away. Therefore, changing the current consumption culture is vital for the success of CE. Another potential problem is with minimizing waste, which is a goal in CE, but if one company uses another companies' waste as a resource, it would be problematic if the first company tries to minimize its waste by extending the lifetime of its products. This also poses problems considering who decides what is considered waste (Korhonen et al., 2018).

Johansson and Henriksson's (2020) comparison of circularity discourses in Swedish national policy in the 1990's and 2010's shows that circularity can be framed differently. They found that the report from 1997 showed a strong circularity where the state and producers were seen as responsible for implementing the circular model, where both extraction and end-use of materials were included in the circle, and where ethical and social responsibility on a global level was included. On the other hand, the circular economy report from 2017 showed a weak circularity where consumers and entrepreneurs are the main actors, the state should deregulate to make it easier for market solutions, reusing and recycling enables continued resource extraction, and social inequality and power relations are largely ignored. The weak circularity is in line with an EM discourse since it promotes circularity as a business opportunity. This study by Johansson and Henriksson (2020) shows that circularity is not a fixed concept that has to support economic growth, and that it can be an important tool to question current power relations, inequality, consumption patterns, and resource extraction. However, Niskanen et al. (2020) show that recently there has been a consensus of the implementation of CE from environmental NGO's to businesses and the national government, as a way to promote economic growth and limit environmental degradation, without recognizing that at the same time there is a conflict between the same actors over natural resource extraction in Sweden.

Here the ambiguity of CE allows extraction businesses to promote it is a way to slowly transition to more recycled materials and a fossil-free mining sector with the use of CCS, while not actually saying that natural resource extraction should be more sustainable or that we should depend less on Swedish virgin resources. At the same time, many NGO's and environmental activists highly oppose mining in Sweden. Proposed measures in line with CE also often mean focusing on ways for consumers to recycle or reuse, energy efficiency, and green technologies, not on resource extraction, which fits into the current economic system rather than opening a way to transform it. The dominant CE discourse fails to problematize growth, consumerism, and inherent problems of capitalism like distribution and recurring crises (Niskanen et al., 2020). Likewise, Hobson and Lynch (2016), argue that the current framing of CE, that better technology and market mechanisms enabled by the government is the solution, like EM, fails to question the root problem of the economic system, or challenge prevailing norms, power structures, and politics. The focus on citizens as consumers risks promoting consumption, as long as it is green, rather than dealing with absolute consumption levels. In this way CE can work to depoliticize environmental issues as described above, and CE then falls into the business-as-usual trap of an EM discourse, leading to incremental change rather than the transformational change that is said to be needed (Hobson & Lynch, 2016; Niskanen et al., 2020; Swyngedouw, 2010).

Many also argue that combining CE with the concept of a sharing economy (SE) where people are seen as users rather than consumers, is a way to deal with the problems of consumption. Though, it is not entirely clear what social and environmental consequences certain sharing schemes have. For example, Airbnb could have the rebound effect that people fly more abroad because they can find cheaper housing. Car sharing has been shown to perhaps lower GHG emissions, but it is not clear if money saved using car sharing is spent on other

environmentally harming products. The social implications are also not always clear in a SE, for example, access to these things might be limited to certain people, and often require technological know-how (Hobson & Lynch, 2016). In order to avoid the SE just falling into the same capitalist logic, Hobson and Lynch (2016), propose an engagement with concepts like "degrowth" and "diverse economy", which explore more diverse forms of economic exchange like local currencies or a mutual aid network where, for example, babysitting can be exchanged for lawn moving. The main difference from a sharing initiative like Airbnb, is that these practices do not have monetary values as the main driver, rather the measure is social capital. The point here is that there are a huge variety of economic practices that fall outside the norm, and are therefore usually not considered.

Consequently, in Helsingborg and Gothenburg, the economic and environmental win-win logic behind CE shown above, and its focus on consumers in the SE, could potentially undermine its potential to spur the needed change. However, CE and SE at least show that there is a will to move away from the linear economy. Helsingborg does acknowledge that saved money cannot be spent on other climate negative activities for a circular economy to work, but they do not explain how this can be avoided (Helsingborg, 2018). In the Helsingborg circular economy plan, there is quite a high focus on materials and market reform, and not so much on social aspects. Though, collaboration between stakeholders is seen as important (Helsingborg, 2020). In Gothenburg they point out CE's potential to change production patterns in a "systems perspective" (Gothenburg, 2021a, p. 37), which perhaps shows a more comprehensive view of the concept, though it is not said exactly how this should be done either. Gothenburg (2021b) has made a report together with civil society, businesses, and academia, investigating what a CE strategy could be like for Gothenburg. There they emphasize that production and consumption of new products has to be reduced significantly, and that resources should be divided equally. They also stress the need for collaboration across sectors in society, and a diversity of actors were consulted in the making of the report. This report shows a description of CE with higher potential for true transformation. All actors found the possibility of reducing climate change impact and contributing to a better society as the main driver, while all, especially businesses, also saw economic gain as one important reason for implementing CE. Politicians also mainly saw it as a strategy for public procurement and municipal construction and buildings, rather than collaboration across sectors (Gothenburg, 2021b). In Lomma, the CE concept is not explained in detail, only that it is about changing the product use cycle and it is also less promoted as a measure or strategy. If they start engaging with the concept more, a critical and reflexive relationship with it would probably be beneficial.

Niskanen et al. (2020) and Hobson and Lynch (2016), also recognize the transformative potential of CE if a more radical standpoint is taken, where the local context, diverse sectors and stakeholders, and potential conflicts between them are considered. Therefore, the use of CE could be a driver of transformational change if framed and used in a critical way in the municipalities. When working more and more with CE and developing new strategies it is therefore important to consider what implications it will have for a diversity of actors, and for social and environmental aspects. Finally, it is important to acknowledge that CE and SE measures might not automatically be good, and to have a critical standpoint. It could also be beneficial to engage with concepts like "degrowth" and "diverse economy" to find more "radical" alternatives, and avoid portraying citizens solely as consumers and the market logic of mainstream CE (Hobson & Lynch, 2016; Niskanen et al., 2020).

6. Conclusions

The aim of this thesis was to explore how current discourses in municipal climate mitigation policy may condition the ability to mitigate climate change. This was done by studying three Swedish municipalities. First, different discourses were identified with the help of ADA and intersectionality. The discourses were then analyzed in the light of previous research and with the help of certain key concepts to show how they might influence the potential for success.

The dominant discourse in the municipalities was shown to be a strong EM. One strength of this discourse is the potential to combine the economic an environmental pillars of sustainable development, thereby putting climate change mitigation higher up on the agenda. Secondly, the global justice perspective, with the importance of including consumption based emissions, is one way to curb one of the usual arguments against EM. Namely, that often only production based emissions are included, giving a false picture that emissions have been reduced, when in reality, the emissions from consumption are still rising. Therefore, I think the increasing focus on consumption in the municipalities is a step in the right direction. Though, as shown above, it is important to try to avoid putting too much responsibility on individual consumers to change their behavior. It is also important to take into consideration the possibility of a rebound effect when consumption is lowered in one area. Another strength of the strong EM discourse is the focus on collaboration and stakeholder participation, which I think is very important for success. However, there is a tendency to see businesses and academia as more active collaborators, while citizens are seen as passive receivers of information and knowledge. A problem that risks depoliticizing climate change mitigation is also the tendency to portray citizens as a homogenous group. This could be improved by a higher focus on local justice perspectives, including a more diverse group of citizens, and to involve citizens in more ways than as receivers of information. Bäckstrand & Lövbrand (2006) point out the potential of a strong EM discourse where equality and participatory processes are seen as important, especially if different types of knowledge are included. Hajer (1995) also argues that in a true reflexive or strong EM, underlying norms and values should be open for debate. Here I think perspectives from more radical discourses like intersectional and ecofeminist studies can provide ways forward to create more inclusive politics, and to question current power relations, values and norms.

Other problems with EM that were highlighted in previous research were that the focus on technological and market based solutions obscures and invalidates other solutions, and that the description of the problem is to reduce CO_2 emissions, which takes away the complexity of the issue. Consequently, rendering climate change mitigation depoliticized. Therefore, it is important to recognize the potential implications of an EM discourse since it might lead to technological solutions like renewable energy and renewable fuels getting more attention than actually reducing energy usage or car usage, for example. Here I think that more of the justice discourse that was shown sometimes in the plans and the interviews, where ethical and environmental problems of renewable energy and fuels were brought up, could be beneficial. This type of discourse could have the potential to show the complexity of these things and politicize the issue, since it shows that renewable energy is not a straightforward sustainable option. Likewise, terms that commodify nature should be avoided since this puts a focus on economic benefits, rather than environmental.

The transition/transformation discourses that are present, especially in Helsingborg and Gothenburg, show that the municipalities recognize that big societal changes are needed and that the economic system at least needs to change to some degree. However, it is important how the transformation discourse is framed, and that social, political, cultural and power dimensions are included. If not, problems similar to those for the EM discourse might appear. Otherwise there is a risk that transformation just becomes a buzzword without actually leading to any fundamental changes. The circular economy discourse also shows a recognition that market systems need to be reformed to some degree and this discourse could potentially open up for transformation. However, if CE is framed predominantly as an economic and environmental win-win like EM, it fails seeing the current linear economy as a problem, and to challenge norms and power structures. Like EM, it often focuses on individual consumer choices rather than on reducing absolute levels of consumption. Therefore, a CE discourse could benefit from taking inspiration from concepts like degrowth and diverse economy, in order to find more fundamentally different ways of structuring the economy. Both transformation and CE discourses could be ways for municipalities to open up for a problematizing of EM and a politicizing of climate change mitigation, but this requires taking a critical stance to these concepts and being mindful about how they are framed.

Future studies could explore climate change discourses in other municipalities, which could perhaps result in other dominant discourses being found. Future research could also analyze why certain discourses appear and become dominant, as well as how historical, political, cultural, or social factors influence the discourse. It could also be interesting to further explore the struggle between GG and EM, and to see if there is a move away from GG, or if the acknowledged need for stronger rules and regulations enforces GG again. Further, possible future research could be to focus more deeply on the development of transition/transformation and CE discourses in Swedish municipalities and what effects they have on climate change mitigation policy. It could also be interesting to study how different actors in society frame these concepts, and how they influence each other.

In conclusion, I think that this thesis has shown that the way climate change mitigation is framed, and how solutions are justified, can condition the potential to mitigate climate change. Of course, there are other factors that also come into play, like political will, organizational structures, and national regulations and support, which has been highlighted in other studies and which was also mentioned in the interviews. Still, discourses are one important factor that should not be overlooked. Therefore, I think that municipalities can benefit from taking discourses into consideration and be aware that the language they use will promote certain actions and solutions, and potentially obscure and invalidate others. Prominent power relations and norms can also be reinforced by a certain discourse, while others can open up the potential to challenge them. Finally, this thesis contributes to research about Swedish climate change discourses and climate mitigation policy, by exploring discourses at the municipal level and how these influence the potential for mitigating climate change. It has helped to further show the possible problems of an EM discourse, and also how radical and emerging discourses could potentially minimize these issues, and lead to more just and effective climate change mitigation.

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Appendix: Interview Guide

Thank you for taking the time to participate in this interview. My study is foremost based on your climate and energy plan/environmental and climate program, but the questions relate to your overall climate change work.

1. First, could you tell me about your role in the municipality, and how long you have worked there?

2. Why do you think it is important that the municipality works with climate change issues?
   a. What responsibility does the municipality have to work with climate change?

3. How do you work to lower your climate impact in the municipality?
   Potential follow up questions
   a. Why the combination climate and energy plan, or environmental and climate program?
   b. Are there any new areas that have been included in the last 5 years? For example, circular economy, Agenda 2030, carbon sequestration.
   c. How do you work with production based and consumption based emissions? For example, considering the need for behavior change? What role does the municipality have to push for this?
   d. Why have you included compensating measures like carbon sequestration?

4. How did you choose the goals and strategies that you have in the plan?
   Potential follow up questions
   a. Which factors influence the choice?

5. How are climate change questions prioritized, compared to other questions in the municipality?
   a. Do you have any examples? (economic questions, city development, business development, bikes vs cars)
   b. How do you work to identify goal conflicts and synergies between different areas?

6. In what way do you collaborate with other actors in your climate change work? (*for example, businesses, civil society, citizens*)
   Potential follow up questions
   a. What role do they play?
   b. Which actors were involved in the creation of the plan?
   c. What opportunity do they have to come with suggestions in regards to climate issues?

7. What are the most important factors for a successful climate change mitigation work in your experience?
   Potential follow up questions
   a. For example, what is the role for technology development?
   b. Which measures are most important to lower emissions?

c. Are any goals or strategies missing in your opinion?

8. How do you think that your climate change mitigation work could be improved further?
   a. What are the biggest challenges?
   b. Do you think that you will reach the goals in the plan?

9. In the plan you write that a transition/transformation is needed? Could you develop what this means? What is it that needs to transform? (For Gothenburg and Helsingborg because Lomma did not write about this.)

10. Is there anything you would like to add?

Is it ok if I reach out via e-mail if there is something that needs clarification?

Intervjuguide

Tack för att du tar dig tid att delta i intervju. Min studie utgår främst från er Klimat- och energiplan/Miljö- klimatprogram men frågorna rör även ert klimatarbete i stort.

1. Skulle du kunna börja med att berätta vad din roll är i kommunen och hur länge du har jobbat med detta?

2. Varför är det viktigt att kommunen arbetar med klimatfrågor anser du?
   a. Vilket ansvar har kommunen i relation till klimatfrågor?

3. Hur arbetar ni med att minska klimatpåverkan i kommunen?
   Potentiella uppföljningsfrågor;
   a. Hur kommer det sig att ni har valt just kombinationen miljö- och klimatprogram/energi- och klimatplan?
   b. Kan du berätta vilka nya områden/frågor som kommit upp på agendan de senaste 5 åren? Ex. cirkulär ekonomi, Agenda 2030, teknikutveckling, kolinlagring
   c. Hur arbetar ni med produktions- respektive konsumtionsutsläpp? Hur ser ni till exempel på behovet av beteendeförändringar? Vilken roll har kommunen i att driva på detta?
   d. Varför målet med nettonollutsläpp och kompletterande åtgärder?

4. Hur har ni kommit fram till just de områden och mål som ni har med i planen?
   Potentiella uppföljningsfrågor;
   a. Vilka faktorer påverkar valet?

5. Hur prioriteras klimatfrågan gentemot andra frågor i kommunen?
   a. Kan du ge några exempel? (Ekonomiska frågor, stadsutveckling/utbyggnad, växande stad och näringsliv, cykel vs bil)
   b. Hur arbetar ni konkret med att identifiera målkonflikter och synergier mellan olika policyområden?

6. På vilket sätt samverkar ni med andra lokala aktörer i ert klimatarbete? (*företag, intresseorganisationer, medborgare*)
    a. Vilken roll spelar de?
    b. Vilka aktörer var involverade i framtagandet av planen?
    c. Hur stor möjlighet har de att föra fram åtgärdsförslag angående klimatfrågor?

7. Vilka är de viktigaste faktorerna för ett framgångsrikt klimatarbete enligt din erfarenhet?
    Potentiella uppföljningsfrågor;
    a. Vilken roll spelar teknikutveckling?
    b. Vilka åtgärder tycker du är viktigast för att minska klimatutsläppen och varför?
    c. Saknas något/några särskilda mål eller någon åtgärd enligt dig?

8. Hur anser du att ert klimatarbete skulle kunna förbättras ytterligare?
    a. Vilka är de största utmaningarna?
    b. Tror du att ni kommer att nå målen i planen?

9. I planen skriver ni att en omställning (Helsingborg/Göteborg) krävs. Kan du utveckla vad det innebär? Vad behöver ställas om?

10. Är det något du skulle vilja tillägga eller berätta om?

Kan jag återkomma via e-post eller telefon om jag behöver förtydliga något?