

Local governance of sustainable consumption on the household level

ANDERS NYMAN 2021
MVEM30 EXAMENSARBETE FÖR MASTEREXAMEN 30 HP
MILJÖVETENSKAP | LUNDS UNIVERSITET



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A small number case study of Malmö and Gothenburg municipality

Anders Nyman

2021



LUNDS
UNIVERSITET

Anders Nyman

MVEM30 Examensarbete för masterexamen 30 hp, Lunds universitet

Intern handledare: Roger Hildingsson, Statsvetenskapliga institutionen, Lunds universitet

CEC - Centrum för miljö- och klimatforskning

Lunds universitet

Lund 2021

Abstract

Today most Swedish municipalities work actively with climate change mitigation with the goal to decrease their total emissions of greenhouse gases. To achieve this, the municipalities must decrease their consumption related emissions. This is a rather new question within local governance, which begs the question, how do municipalities work to govern its citizens' consumption patterns? This study set out to investigate how the two Swedish municipalities of Malmö and Gothenburg work with governance methods to steer its citizens' consumption patterns to become more sustainable. Strategies and challenges to this work were also explored. Bulkeley & Kern's modes of local governance were tested on three established categories of sustainable consumption. This was performed through a qualitative content analysis of documents as well as interviews with civil servants of the two municipalities. The results show that to influence citizens' consumption patterns the municipalities mainly employ information-based measures to promote sustainable consumption, but also that they provide sustainably produced heating and electricity to households and sustainable transportation infrastructures, such as bicycle roads and public transport. Additionally, the municipalities address strategies to influence consumption norms, for instance among young people in school. A key challenge for the municipalities is a lack of knowledge on effective governance measures for promoting sustainable consumption.

Keywords: climate change, sustainable consumption, local governance, climate goals, municipality, household, citizen

Kommunal styrning av hållbara konsumtionsmönster på hushållsnivå

Många svenska kommuner har antagit ambitiösa klimatmål, flera av dem försöker påverka sina invånares konsumtionsmönster, vilket är en av de största orsakerna till växthusgasutsläppen. Hur kan svenska kommuner påverka sina invånares konsumtionsvanor, när konsumtionsvalet trots allt ligger i deras händer?

I denna studie jämförs hur två större svenska kommuner arbetar med hållbar konsumtion och på vilka sätt de försöker påverka medborgarnas konsumtionsval och konsumtionsmönster. För att påverka invånarnas konsumtionsrelaterade klimatavtryck arbetar Malmö och Göteborgs kommuner med information- och inspirationskampanjer, ekonomiska styrmedel, ett utökande av infrastruktur för hållbara transportval och leverans av hållbart producerad energi. Svenska kommuner saknar idag till stor del kunskapen som krävs för att effektivt påverka sina invånares konsumtionsmönster. Svenskarnas konsumtion är idag den enskilt största bidragaren till växthusgasutsläppen, där cirka 5 ton CO₂eq per capita och år kan tillskrivas hushållens konsumtion, vilket utgör ungefär 60 % av de totala konsumtionsrelaterade utsläppen. Trots viss överlappning mellan utsläppskategorierna kan denna siffra relateras till de två andra kategorierna av utsläpp som traditionellt brukar rapporteras, produktions- och territoriella utsläpp, på sammanlagt 4 ton CO₂eq per capita och år, samt den nivå av utsläpp som krävs för att vi globalt ska nå Parisavtalets mål år 2050, på 1 ton CO₂eq per capita och år. För att kommunerna ska kunna nå sina ambitiösa klimatmål i linje med Parisavtalets mål, måste de få bukt med sina invånares konsumtion av varor och tjänster. Att skapa kunskap om hur kommunerna arbetar, och hur de kan arbeta, är av vikt för att kommunerna ska ha en chans att nå dessa mål. Denna studie kan användas som en inspiration för mer omfattande studier om lokal styrning av hållbara konsumtionsmönster på hushållsnivå. Studien baseras på kvalitativ innehållsanalys av dokument och intervjuer med tjänstemän i Malmö och Göteborg, som visar ett par intressanta aspekter. Malmö kommun arbetar progressivt med olika metoder för att påverka sina invånares konsumtion av livsmedel, en kategori som historiskt varit svår att påverka då matvalen till fullo ligger i konsumentens händer. Göteborg fokuserar istället på att bygga om staden för att lösa sina hållbarhetsutmaningar, så som byggnation av mer hållbar kollektivtrafik och ett mer enhetligt cykelnätverk. Båda kommunerna arbetar också för att påverka normer på olika sätt, där de via skolan arbetar med unga människor för att på sikt ändra deras konsumtionsvanor.

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Introduction

A rapidly changing climate is an ominous threat that looms over our contemporary societies. As we all know, climate change is driven by the warming effect of the ever-increasing emissions of greenhouse gases (GHG). Despite being too slow, the process of decreasing the GHG emissions in Sweden is going in the right direction when it comes to the territorial and production related emissions, which are the established ways of reporting GHG emissions. However, the biggest source of emissions is consumption related. Emissions originating from the consumption in Sweden are roughly 8 tons of carbon dioxide equivalents (CO₂eq) per capita and year. Out of this, approximately two thirds originate from consumption on the household level (Naturvårdsverket, 2020a). Despite some overlap between categorizations, this number can be compared to the other two classical categorizations of GHG emissions, those of production and territory. These emissions account for approximately 4 tons of CO₂eq per capita and year combined (Ritchie & Roser, n.d.) As another reference point, the global average needs to decrease to 1 ton of CO₂eq per capita and year by 2050 if we are to reach the goal of maximum 1,5 ° C of warming from pre-industrial levels, in accordance with the Paris Agreement (Naturvårdsverket, 2020b). If Sweden is to reach its nationally determined climate goals by 2030 and onwards it is of utmost importance that the consumption emissions, connected to domestic production and consumption as well as the import and consumption of goods and services, decreases dramatically (Naturvårdsverket, 2020c).

The need to change our consumption patterns have been on the international political agenda since Agenda 21 and the Rio conference of 1992 (United Nations, n.d.). Internationally, and in Sweden, it has traditionally been viewed as a national matter. However, several Swedish municipalities have started the process of creating a more all-encompassing overview of their contributions to the problem of climate change. One example is how several municipalities are now calculating their own carbon dioxide (CO₂) budgets, that are to be in relation to the global budget, in accordance with the Paris agreement (Aktuell Hållbarhet, n.d.a; Aktuell Hållbarhet, n.d.b). So far, most of the focus among local municipalities has been on decreasing the consumption emissions originating from their own internal organizations, rather than the emissions originating from the household level. Despite this, the focus is now starting to shift towards the citizens (Göteborgs Stad, 2019; Stenevi, 2019). A report from Stockholm Environment Institute concludes

that despite the municipalities not having decision power over its citizens consumption, there are several steering mechanisms they can employ. Examples are city planning and development, waste management, education, and delivering important information. According to the report, the civil servants are the most important actors in working with consumption related issues and in order to achieve the municipalities' goals there must be clear political support, sufficient financial resources and education (Axelsson et al. 2019).

Given the national-based focus on consumption emissions, the scientific research on local governance of sustainable consumption is rather thin. In a comprehensive literature review, Dawkins et al. (2019) found only a few articles on sustainable consumption governance at the local level. Summarizing the articles, they found that financing, education, knowledge of the topic as well as a lock-in on how the municipality works are key challenges when working with sustainable consumption on the household level (Dawkins et al., 2019). Another report from the Swedish Consumer Agency states that very few municipalities have taken any initiatives regarding its citizens' consumption patterns of foods, living space, and other types of consumption. The municipal work on sustainable consumption on the household level is oftentimes unclear, it is typically project based and dependent on external funding (Bernstad Saraiva & Andersson, 2017).

Research on local governance of sustainable consumption on the household level is insufficient. The municipalities have ambitious climate goals but seemingly few options of intervening in their citizens' consumption patterns, the very patterns that combined comprise the biggest source of GHG emissions in the country. Despite this, the municipal level of governance is the closest one to the citizens and it does have the biggest possibility of informing, inspiring, and engaging its citizens through working with topics regarding sustainable consumption (Malmö Stad, 2020). Given these facts, this thesis aims to investigate how Swedish municipalities work to decrease the GHG emissions originating from its citizens consumption patterns, as well as the challenges to this work.

Specified Aim and Research Questions

The specified aim of this thesis is to investigate how Swedish municipalities work to govern sustainable consumption and to influence their citizens' consumption patterns, how they strategize concerning this issue and which key challenges exist. Since the consumption patterns are generating massive GHG emissions, the implied aim is to create knowledge about the current state of the municipalities' progress and whether it is likely to result in a decrease of GHG emissions on the household level. By extension, this may provide an inkling to the municipalities' chances of reaching the ambitious local climate goals. Focusing on three main modes of local

governance, I analyze policy documents deductively and inductively to create an understanding of municipalities' work with sustainable consumption patterns, supplemented by interviews with a selection of civil servants in two cases; the Swedish cities of Malmö and Gothenburg. Additional focus is put on strategies and goals on changes necessary to reach the climate targets of 2030 and beyond, as well as challenges to this work. This is accomplished by answering the following research questions:

How does Swedish municipalities govern to make their citizens consumption more sustainable?

How does Swedish municipalities strategize concerning future governance of their citizens' consumption patterns?

Which challenges exist in municipal work for a sustainable consumption on the household level?

Sustainable Consumption and Local Governance Theory

In this chapter, sustainable consumption is defined and divided into suitable categories. Local governance literature is presented and developed in the context of climate change and sustainable consumption. The main concepts from the literature are operationalized and adopted to the framework, which is presented in the end of the chapter.

Sustainable Consumption

The definition of sustainable consumption is typically referenced back to the Oslo Symposium of 1994 where it was defined as “the use of goods and services that respond to basic needs and bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardize the needs of future generations” (IISD, n.d.; Sustainable Development, n.d.). Sustainable consumption is oftentimes discussed under the umbrella term of circular economy. Circular economy entails moving away from the linear economy with production, consumption, and the final stage of waste where the products are simply thrown away. In a circular system the products and materials are instead being kept in use, which leads to waste and pollution being minimized and the natural environment given a chance of recovering (Ellen Macarthur Foundation, n.d.). In such a system the products have an increased durability and lifetime, they are repairable and ultimately recyclable. A secondhand market as well as leasing and borrowing are crucial aspects to enable an extended lifespan of products. Factually correct information on how to make sustainable purchases that fit within such a system is also essential for consumers, for them to be able to partake in it (European Commission, n.d.).

Consumption on the Household Level

The emissions generated from consumption on the household level in Sweden is generally divided into three main categories; transport, foods and emissions related to Swedish homes. Combined they comprise approximately 85 % of total household consumption emissions (Naturvårdsverket, 2020c; Finansdepartementet, 2016). Within transport the main sources of emissions are road and flight transports. Emissions originating from the Swedish population's transports domestically as well as abroad are included, where an increasing amount of international flight travel is one of the main reasons for this source of emissions increasing. Within foods, both domestically produced and imported foods are included, where the emission from domestically produced foods is slowly declining while the amount of imported food is increasing. Within the emissions generated from Swedish homes the main sources of emissions are electricity, heating, services connected to the home, and furniture. The remaining fifteen or so percent of emissions comprise all other smaller consumption areas and are typically lumped together in the category of 'other' (Naturskyddsföreningen, 2017). For the purpose of this thesis' analytical framework these four categories of transport, foods, homes and other will represent consumption. As suggested by the name, the fourth category of 'other' will be kept relatively open. This allows me to not be completely bound by pre-established categories and to explore potential other avenues within the municipalities' work in engaging their citizens in consuming more sustainably.

Local Governance of Climate Change

Municipalities have an important role to play in managing environmental issues and challenges such as climate change. Many municipalities in Sweden are progressive in transforming national climate goals into local goals, oftentimes aiming higher than the national government. It is however a complex form of governance. Municipalities are dependent on local actors to implement policy at the same time as they are dependent on national regulation and resources (Khan, 2010). Local government has arguably the best knowledge about local conditions and challenges and is therefore best suited to tackle them. Local policy decisions that manage local issues can foster civil engagement and gain legitimacy (Alirani & Olausson, 2015). Palm et al. (2019) argues that in the context of climate change and sustainable consumption, local governance is increasingly opening to become broader with local governments relying on networks and partnerships. Local governments are becoming one actor among many. For local governance to gain legitimacy on an issue as complex as consumption it needs to reach common views

and trust from local actors through cooperation (Palm et al., 2019). Sustainable consumption is a complex issue that is a part of almost every daily decision we make, therefore it is an issue that needs to be dealt with through a variety of avenues. Consequently, municipalities require a wide variety of governance tools.

Modes of Governing

This thesis will employ three out of the four modes of local governance that originally were developed by Bulkeley and Kern (2006). These modes are commonly used in local governance analyses and provide an all-encompassing overview of how local government steer in order to achieve change. Governing by authority, which perhaps is the most traditional way of governing, primarily uses regulation to govern. Governing by provision concerns the way a local government provides services and resources that are necessary to influence certain practices. Governing through enabling is about encouraging, engaging, facilitating, and enabling the local community into action through means such as co-ordination and partnerships with local actors. Self-governing concerns the way a municipality governs the activities in its internal organization (Bulkeley & Kern, 2006). Since self-governing is focused on the municipalities' internal organization rather than the governance of the citizens, this mode of governance will not be of interest for this study and hence not employed in the analytical framework.

Bulkeley went on to develop a fifth mode of governance called governing by partnership (Bulkeley et al., 2009). It is described as a mode where the local government has no formal steering power and is dependent on cooperating with other actors to be effective (Bulkeley et al., 2009; Palm et al., 2019). This mode has many similarities to governing through enabling and since local government has limited power over citizens' consumption already, this mode would not add much to the analytical structuring of this thesis and will therefore be disregarded. The three remaining modes of governance; governing by authority, governing by provision, and governing through enabling, are in the following sections developed in their application to the steering of sustainable consumption on the household level.

This theory construction has its roots in social constructivism, which is the philosophical lens through which this study conducts its analysis. Social constructivists view reality as being socially constructed and that people make their choices through interacting with others in an environment that is constructed through their history, culture, social values, and norms. By studying peoples' beliefs and ideas we can understand their behavior (Halperin & Heath, 2017). Consequently, citizens typically make their consumption decisions based on dominating norms, cultures, and beliefs. A lens such as social constructivism will

enable me to better understand how civil servants view sustainable consumption on the level of the households, and how they reason around steering mechanisms and governance initiatives that will enable their citizens to consume in a more sustainable way.

Governing by authority

Governing by authority relies on direct regulations to steer the citizens' behaviors, where threats of sanctions can be imposed if these regulations are not followed (Kern & Bulkeley, 2006; Palm et al, 2019). Such governance is only applicable in policy areas where the local government have the mandate to regulate. When it comes to its citizens' consumption the municipality have somewhat limited governing powers. One area of municipal authority with some impact is within city planning. Through the detailed development plan, which in Sweden is legally binding, the municipality can steer its citizens' consumption to a certain degree (Smedby & Quitzau, 2016). For example, the incorporation of better bicycle roads could be employed to facilitate citizens' sustainable transport choices. Other examples are lowering parking quotas and other technical regulations on new construction. However, the municipality still has a quite limited authority in these areas (Palm et al., 2019).

Governing by provision

As the name suggests, governing by provision concerns governance of practices in society that are dependent on the municipality providing goods, services, and resources. Infrastructural, material, and practical mechanisms are employed for this mode of governance (Kern & Bulkeley, 2006; Palm et al, 2019; Smedby & Quitzau, 2016). Sustainable consumption oftentimes goes hand in hand with local sustainable production within this mode of governance. For example, through sustainable production of heating, a municipality can influence its citizens' consumption. Municipality owned companies often play a substantial role in this mode of governing. An example of this is housing companies and their subsequent choice of electricity and heating suppliers (Palm et al, 2019). Another one would be waste management companies. Through facilitating recycling a waste management company can provide the means for citizens to consume more sustainably.

Governing through enabling

A less hierarchical mode of governing is achieved through argumentation, persuasion and creating incentives. The municipality's role in governing through enabling is to create partnerships with local actors and to facilitate, encourage and co-ordinate projects of local engagement with these actors (Bulkeley & Kern, 2006). Palm et al., (2019) further develops governing through enabling as governance that employs positive incentives such as information campaigns and subsidies to encourage and persuade citizens to partake in certain activities. Smedby and Quitzau (2016) elaborates on this type of governance by stating that it includes a diverse set of strategies based on negotiation as well as persuasion. For this governance to be effective, the municipality and its citizens need to establish a common set of goals and visions. That the municipality does not have direct authority and that local actors are on a more similar level with the local government makes this type of governance very challenging, since exerting power over a population in areas where you do not have the authority to do so is inherently difficult (Smedby & Quitzau, 2016). However, for the same reasons it is also a highly applicable type of governance if the goal is to achieve a more sustainable consumption, since it is the citizenry that have the final choice of consumption after all. Khan (2010) describes how network governance on the local level seeks to include local actors in the policy processes and how the municipalities are dependent on having their interests aligned with these actors to be effective. The similarities between network governance and governing through enabling is highlighted and described as governance modes that are dependent on soft policy measures and cooperation (Khan, 2010).

In the municipal context of consumption where the citizens always have the ultimate choice, governing by authority and provision inherently have logical limitations. Consequently, the natural alternative becomes governing through enabling (Smedby & Quitzau, 2016; Khan, 2010). Through this type of governance, the municipality has a wide array of options in influencing household level consumption. Examples are information campaigns, networking, the supporting of grassroots initiatives (Palm et al., 2019), and financial incentives (Smedby & Quitzau, 2016).

Local Governance and Sustainable Consumption – an Analytical Framework

The analytical framework developed for this thesis focus on theories about different modes of local governance for climate change as well as defined categories of consumption at the household level. This framework functions as a lens through which this thesis seeks to understand how municipalities work to govern its citizens' consumption patterns. The categories of consumption are broad and are meant to be an all-encompassing coverage of sustainable consumption. However, new categories of sustainable consumption may emerge through the thematical patterns discovered during the analysis of the data. This means that despite the pre-decided categories of this analytical framework, the study does have inductive traits that enables me to explore new avenues of sustainable consumption governance.

Analytical Framework

	Governing by authority	Governing by provision	Governing through enabling
Transport	Indicators: Lowering parking quotas, city planning, walking paths, bicycle roads	Indicators: Rental bicycles, supply electrical charging hubs	Indicators: Informing, persuading, networking, and inspiring citizens to walk, taking the bike, using public transport
Foods	Indicators: Urban farming regulation on animals	Indicators: Limited, if any	Indicators: Informing, persuading, networking, and inspiring citizens to eat less meat, more plant based and local produce
Homes	Indicators: Technical regulation on new construction. Energy efficiency of newly built homes. Regulation on waste collection	Indicators: Municipality owned housing companies, electricity and heating suppliers, facilitating recycling	Indicators: Informing, persuading, networking, and inspiring citizens to; choose renewable electricity/heating, purchase sustainably produced furniture/items
Other	Unknown	Unknown	Unknown

These indicators are merely a few operationalization examples of the modes within the different categories, they are hypothetical indicators inspired by the theoretical literature and they are presented to represent what I search for during the analysis. More examples may emerge during the analysis and will then be further described in the analysis chapter.

Furthermore, the category of 'Other' is left open and is meant to represent the inductive part of this thesis. As an undefined section of consumption, and the framework, it illustrates the possibility of exploring additional avenues when conducting the analysis.

Small Number Case Study & Qualitative Content Analysis

This chapter comprises research design, methods of data collection, ethical considerations, and a description of the analytical process. A small number case study with a comparative design is this thesis' research design, data is collected through a document search and interviews. The data is then analyzed through a qualitative content analysis with a mix of closed and open coding.

Research Design: A Small Number Case Study with a Comparative Design

I set out to investigate how Swedish municipalities work, strategize and reason concerning sustainable consumption at the household level. A small number case study with a comparative design is selected as this study's research design. The two municipalities of Gothenburg and Malmö are selected as the cases. The case selection is motivated by them representing two of Sweden's largest municipalities, 2nd and 3rd in population size, and both municipalities are considered to be ambitious when it comes to ecological sustainability and climate governance (Aktuell Hållbarhet, n.d.c). Furthermore, the municipalities' have substantial financial means, making them influential and interesting entities to investigate for this study (SCB, 2020).

A small number case study design allows for a rigorous in-depth analysis of the municipalities' documents, websites, and answers from the interviews conducted with the municipalities' civil servants, which combined comprises the data for this thesis. The focus on only two cases allows time for a detailed analysis and enables me to examine the data and arrive at sound conclusions regarding the research questions within the scope of the analytical framework of this thesis. This type of research design will enable a thorough examination of the material which will strengthen the internal validity of this study (Bryman, 2011; Halperin & Heath, 2017). In addition to this, the comparative design enables me to explore similarities and differences between the municipalities' governance measures. A comparison

between what the municipalities prioritize and which interventions they deem effective will be helpful in discovering how municipalities in Sweden view this issue.

The aforementioned advantages for this study's internal validity are also the disadvantages for this study's external validity. A small number case study with only two cases is inherently difficult to generalize from since the findings of the study applies explicitly to these cases and may be difficult to apply to other cases. Still, the case study design might have some generalizability to other municipalities of similar size, i.e., medium-to-larger cities and urban areas, as well as to municipalities in general as Swedish municipalities tend to be structured and organized in a similar fashion (Montin & Granberg, 2013).

Since I perform a qualitative analysis, repeatability is another concern. My understanding of the world may have an impact on the way I understand and interpret the data, which has consequences for the repeatability of the analysis. This means that another researcher using the same design may arrive at different answers and conclusions (Halperin & Heath, 2017). However, the pre-determined codes based on theoretical literature does mean that the analysis will be conducted in a systematic fashion, which helps strengthen this thesis' repeatability.

Methods for Gathering Data

To answer this thesis' research questions, I analyze documents as well as interviews conducted with civil servants in Gothenburg and Malmö. Any official documents that are likely to cover ecologically sustainable consumption make out the first part of the analysis. This includes environmental/climate programs, strategy documents, publicly communicated municipal goals and information on the municipalities' official websites regarding sustainable development and consumption. All documents and websites are manually selected from the municipalities' official websites. The documents and websites were chosen based on their relevance on citizens' consumption patterns. I quickly skimmed through the content to establish relevance before taking the final decision of including them. All twenty-nine documents and websites chosen for analysis can be seen in Appendix 1. Five interviews supplement the documents and websites. I have interviewed two civil servants in Malmö and three in Gothenburg, each within municipal departments relevant to sustainable consumption. Civil servants that work with these issues were selected since they are likely to be a good source of updated information regarding the municipalities' work and progress. They are also likely to be knowledgeable on the municipal goals, budgets and strategies decided by the municipalities' political leaderships since these are the structures within which they work. I reached the civil servants by contacting the environmental departments of each municipality via e-

mail where I shortly explained what my study is about and asked about the contact information of relevant civil servants to interview.

Such a triangulation of data with official documents, websites and interviews strengthens the validity of the results and helps minimize misunderstandings that may have occurred if conducting an analysis on one individual piece of text (Bryman, 2011).

The interviews were constructed using a semi-structured design. Eleven open and general questions were prepared in an interview guide (see Appendix 2). The questions have no innate order and opens for follow up questions and a discussion on different avenues of sustainable consumption. The questions are thematically connected to the analytical framework of this study without using theoretical language, a simple spoken language with easily understandable questions will result in a better conversation and clearer answers (Kvale & Brinkmann, 2009). Since this study investigates a rather new subject area it does have exploratory features while it also relies on its theoretical background. Semi-structured interviews enable me to maintain both these features in a viable fashion (Halperin & Heath, 2017). The semi-structured interviews in this qualitative study are tools that helps me interpret the respondents' view of the world and how they understand it (Kvale & Brinkmann, 2009), which will enable me to understand their view on sustainable consumption and answer the research questions of this thesis.

The interviews were conducted as digital conversations via Zoom. Conversations were held in Swedish, and the quotes chosen for analysis were translated by the author. Small errors during translation could occur and this is a potential issue that is hard to circumvent. Another aspect to consider is the interviewer effect, where the respondents may answer to please the interviewer or in any other way that is more socially acceptable. The risk of this is difficult to avoid. However, the triangulation of data through the document analysis decreases this risk and helps strengthen the thesis (Halperin & Heath, 2017).

Ethical Considerations

Conducting interviews is accompanied with several ethical considerations that must be taken. Confidentiality and anonymity are offered to the respondents. I made sure that the respondents were aware that the interview was on their terms, that it was voluntary, and that they could withdraw from participation at any point throughout the research process. I informed the respondents about what the research is going to be used for and that the results will mainly be read by teachers and other students and that the thesis will be published on Lund University's website for theses. If the respondents agreed to it, I recorded the interviews. All above was covered via e-mail correspondence with the civil servants prior to the interviews (Halperin & Heath, 2017). The interviews were conducted with public officials and the subject is not deemed to be of sensitive nature, so I do not foresee many ethical issues with this study. However, personal opinions may always emerge during a conversation. Since I do investigate challenges and obstacles to the municipalities and their work the civil servants were in a situation where they could speak out critically of their organizations in different ways. Due to this, the respondents' identities are kept anonymous throughout the entire research process.

Methods for Analyzing Data: Qualitative Content Analysis

The analysis of the material is conducted through a qualitative content analysis. Such an analysis allows me to systematically analyze the material in its entirety as well as explore indirect meanings of the material. This is useful when trying to understand how the municipalities understand and work with an issue as complex as sustainable consumption (Halperin & Heath, 2017). The analysis is undertaken using the hermeneutic circle of interpretation which is a practical method of interpreting text while minimizing the impact of the reader's previous beliefs. This is performed practically by systematically and repeatedly reading parts of the material and continuously connecting these interpretations to the entirety of the data. When repeating this circular method of interpretation, a new understanding may emerge that has less to do with my presuppositions and more about the actual meaning of the material (Stanford Encyclopedia of Philosophy, 2016; Kvale & Brinkmann, 2009).

The analysis is undertaken with guidance from my theoretical framework where municipalities' actions on sustainable consumption are analyzed in accordance with how they are employed, meaning the modes of governance to

which they subscribe. Additionally, this thesis aims to explore new understandings of how municipalities work with sustainable consumption on the household level. Therefore, a mixed coding approach with both closed and open codes is used. The closed codes, which Halperin and Heath (2017) calls a priori codes, refer to the analytical framework of this thesis that is derived from the theoretical literature on sustainable consumption and the different modes of local governance. This is sometimes referred to as a directed approach of qualitative content analysis, where existing theory is applied as a lens in a deductive fashion during the analysis (Hsieh & Shannon, 2005). Since this thesis has exploratory features, I also employ open coding, sometimes referred to as grounded coding. Such a coding scheme entails that I put aside my presuppositions and explore new patterns and themes in the data. The themes are given codes throughout the analytical process by constant comparison. New material is analyzed and compared to previous passages. If it seemingly belongs to previously found themes it is coded in the same manner. If not, the new theme is given a new code (Halperin & Heath, 2017). If several codes seemingly subscribe to a category of some type, they may be merged to better describe this type. This could for example be how a municipality works with an issue or certain ways in which municipalities strategize their promotion of sustainable consumption.

A qualitative content analysis is a sound choice since it is a rule-governed method of analysis which, if conducted correctly and transparently, will make the inferences reliable and reproducible (Mayring, 2004). This means that the results would be similar or the same if another researcher repeated the study with the same process. The coding scheme previously described is an important part of strengthening the thesis' reliability. A systematic coding scheme speaks for a high coder stability, meaning that I will perform the coding consistently (Halperin & Heath, 2017).

In accordance with this thesis' analytical framework and additional research questions, I will be searching for the following eleven categories during the analysis of the data. These will make up the closed/a priori codes of this thesis and the categories are coded and defined as follows:

Codes for Analysis

TransportAuthority	Text that describes how the municipality uses authoritative governing measures to influence its citizens' transport choices
TransportProvision	Text that describes how the municipality uses provisional governing measures to influence its citizens' transport choices
TransportEnabling	Text that describes how the municipality uses enabling governing measures to influence its citizens' transport choices
FoodsAuthority	Text that describes how the municipality uses authoritative governing measures to influence its citizens' food choices
FoodsProvision	Text that describes how the municipality uses provisional governing measures to influence its citizens' food choices
FoodsEnabling	Text that describes how the municipality uses enabling governing measures to influence its citizens' food choices
HomesAuthority	Text that describes how the municipality uses authoritative governing measures to influence its citizens' consumption choices related to their homes
HomesProvision	Text that describes how the municipality uses provisional governing measures to influence its citizens' consumption choices related to their homes
HomesEnabling	Text that describes how the municipality uses enabling governing measures to influence its citizens' consumption choices related to their homes
Strategy	Text that describes how the municipality plans to work ahead to decrease the GHG emissions originating from its citizens' consumption patterns
Challenge	Text that describes key challenges the municipality face in its work with sustainable consumption on the household level

As mentioned above, if I find unanticipated avenues of the two municipalities' work on sustainable consumption on the household level, open coding will be used. The undefined section of 'Others' can be considered corresponding to potential new themes emerging throughout the analysis.

Analysis of Gothenburg and Malmö

The structure of the analysis is built around the modes of governance the municipalities employ to govern the three categories of its citizens' consumption. Municipal strategies and goals are consequently presented throughout the entire analysis and the finishing paragraphs describe the municipalities' challenges. The themes presented are derived through the exploration of the closed codes presented in the methods chapter, as well as new codes. A code that is more reoccurring than others is prioritized in each of the sections below, since a more reoccurring code suggests that the corresponding way of governance is more prevalent, and therefore more important and more interesting for the analysis. However, the codes are not counted as such and this way of focusing on the more prevalent codes is not a quantitative addition to the analysis but rather a way of distinguishing the most common governance practices within the municipalities. Except for the closed codes, two new open codes emerged during the analysis of the data. One code, or theme, was how the municipality works with norms, such as working with young people and their consumption patterns, the second was general enabling practices where the municipality works with enabling governance that is not tied to a specific category, but rather more general.

The first part of the analysis is of Malmö and the following of Gothenburg, this is followed by a summarized comparison with general similarities and differences in the way the municipalities are working. All three research questions are consequently investigated throughout the analysis of the two municipalities and are answered in the following results chapter. The three research questions concerning how the municipalities work with sustainable consumption on the household level can be simplified as; the way the municipality works today, the way the municipality wants, or plans, to work (strategies), and key challenges for this work. Differences and similarities between the municipalities that are of importance will be elaborated further on in the discussion chapter of this thesis.

Malmö

When forming an understanding of a municipality's work with sustainable consumption it is logical to start with its overarching goals on the topic, and the general strategies employed to reach these goals. The environment and climate program of Malmö is a strategy document that is focused on the municipality's 17 goals leading to 2030 and it contains a few goals that are of interest for this study as they have bearing on sustainable consumption and address efforts to influence the consumption patterns of its citizens. Goal 3 concerns lowering the emissions of GHG towards a sustainable level. To include the citizens of Malmö in this process is emphasized as key to reach this goal. Goal 7 concerns mobility in the city and reads that the land should be prioritized for more sustainable transport options such as walking, cycling and public transport. The goal is to change the transport distribution where the approximate 40 % of trips taken by car today should be reduced to 30 % and today's levels of approximately 22 % of cycling should increase to 30 % (Malmö Stad, 2020; Malmö Stad, 2021a). An increased resource efficiency in an increased circular economy is part of goal 12, with less waste and a longer lifespan of products (Malmö Stad, 2021a).

Another strategy document concerns energy production where Malmö municipality seeks to promote renewable energy production with the goal of decreasing fossil fuel-based energy production with 20 % until 2020 and another 20 % until 2030 (Malmö Stad, 2019). Such decrease in GHG emissions would have obvious impacts on many citizens' consumption of energy.

In December 2020 Malmö signed the Climate Contract of 2030 together with eight other Swedish municipalities. Malmö pledges to work with a variety of questions such as increased collaboration with the civic society as well as investigations into how increased digitalization and citizen engagement can help speed up the transition into ecological sustainability (Malmö Stad, 2021b).

Governing by authority

The mode of governing by authority concerns interventions of which the municipality has direct regulatory powers. When it comes to citizens consumption choices this mainly applies to the municipality's indirect effect on the consumers through direct decision power over the city's infrastructure. Examples of this are typically city planning that indirectly can steer peoples' choices (Smedby & Quitzau, 2016).

Transport

When it comes to influencing citizens in making more sustainable transport choices using authoritative governing measures the municipalities typically have city and traffic planning as the main tools. In the following quote from one of the civil servants interviewed, this aspect is discussed, in comparison with enabling tools such as information.

Indirectly via the city planning you can plan the city according to the behaviors that you want to facilitate. What you want less of. Through bicycle paths or the decisions you make, what should be where? How expensive it is with parking and that type of thing. I haven't worked with city planning but it is an obvious tool. It's the closest thing we have to some sort of direct decision power and the effect is much clearer than when we do some sort of information campaign, which is a pretty weak tool after all (Civil servant, personal communication, March 19, 2021).

The term direct decision power and strong effect is used here with city planning and the influence it has on the way the citizens use the city. Such direct power is a typical example of governance by authority, where the city has full authority over city planning decisions.

One specific way of working with city planning can be found when reading the municipality's policy on mobility and parking. The detailed plans that contain the municipality's development plans for a certain district is a strong governing tool. The detailed plan is legally binding (Boverket, 2020). In the process of forming this detailed plan the landowner, which in this case would be the municipality itself, should perform an investigation of parking and mobility that is to cover bicycles and cars. During the development process and via the permit necessary for construction, a new and updated version should be presented. This is where the level of parking is ultimately decided (Malmö Stad, 2020). By lowering the level of parking, the municipality can steer the citizens' transportation choices.

Additionally, several traffic and infrastructure plans can be found in the city's long term development plans. Seven new electrical bus lines are to be built in Malmö as well as thirty kilometers of new bicycle paths, both of which will lead to a decrease in the emission impacts from the citizens' transportation (Malmö Stad, 2021c).

Food

No examples of authoritative measures of governance regarding the consumption of food could be found in the data.

Homes

No examples of authoritative measures of governance regarding the consumption related to peoples' homes could be found in the data.

Governing by provision

This type of governance concerns municipal steering through providing goods, services and resources that enable certain practices to be possible. The municipality can influence its citizens' consumption choices by simply providing more sustainable options (Kern & Bulkeley, 2006; Palm et al, 2019; Smedby & Quitzau, 2016).

Transport

The municipality provides access to cheap rental bicycles and have been expanding this infrastructure quite a bit in the last few years (Civil servant, personal communication, March 19, 2021). Furthermore, Malmö is trying new solutions for mobility in the development of new housing areas. Examples of this are local car or bicycle pools where you can rent or share instead of owning (Civil servant, personal communication, March 25, 2021). Other than straight forward examples like these there are a couple of mechanisms the municipality use, or experiment with, to steer the citizens transportation choices towards sustainability. Mobility purchase is a mechanism where the municipality and the developer agree that the developer puts aside funds for the municipality if it is difficult to solve the minimum amount of parking, which can be the case in central locations. As a compensation, the city can solve the need for transportation options with increased public transport or better circumstances for biking. The idea is to work towards replacing car transport with more sustainable options (Malmö Stad, 2020).

Parking purchase is another solution, where the property owner pays another company to solve the parking spots needed. *Parking Malmö* is such a company that can solve the necessary parking spaces. When applicable the municipality is to solve this in the most sustainable way possible, such as developing parking houses with charging stations, and in that way providing better opportunities for people using, or starting to use, electric cars (Malmö Stad, 2020). When Malmö owns the land this would be considered city planning and governing by authority, but when Malmö does not own the land, they can provide the aforementioned parking services, making it governing by provision.

Food

A municipality does not typically provide food for its citizens. However, it does provide food in schools, which influences young peoples' food consumption

choices. Malmö has been highly active, and successful, in this work. This was discussed during one of the interviews.

I believe we are the municipality in Sweden, if you combine ecologically produced food and greenhouse gas emissions, we have definitely come the furthest, both a high percentage ecological food and low greenhouse gas emissions. The school food today, they serve meat maximum 1-2 times per week and the rest is plant based. And we have over 35 000 portions served per day in the schools, so we have gotten far. One preschool got down to 0,98 kilos of carbon dioxide equivalents per kilo of bought food, incredibly low. (Civil servant, personal communication, March 25, 2021).

Malmö has prioritized the work in lowering the emissions from the school food through ambitious goals and a big effort into educating the school chefs on how to cook climate friendly food (Civil servant, personal communication, March 25, 2021). As a reference point to the emission level mentioned, an average lunch in Sweden emits approximately 2 kilos of carbon dioxide equivalents, according to Swedish World Wildlife Fund (WWF, n.d.). The civil servant elaborated on their work with public food in schools and the effect it potentially can have on peoples' consumption by saying the following.

We have gotten really far with the public food. And I hope that it results in something. I guess there are those who wishes to eat more meat at home than they do in school but there is hopefully those that has gotten this since they were small, in those cases I imagine it will follow them into adulthood too. That is a method of, in a way, in the long-term also changing the households' consumption habits. (Civil servant, personal communication, March 25, 2021).

The interviewee argues that the municipality, through providing climate friendly food in the long term, can help change young peoples' habits and change the norms when it comes to the consumption of food. The idea of working with young people and consumption norms is a theme that was also found in the other interview where school food was discussed. The civil servant (Personal communication, March 19, 2021), said that "Generally, it is easier to have some sort of influence the younger the citizen is that you target ... we have, in a way, less power the older the citizen is."

A similar way of reasoning around working with consumption norms in society appeared in the document analysis where Malmö municipality describes their wish to work with, and co-create knowledge together with, children and young people as well as limiting the climate effect of food. These are emphasized as measures

that can help the people of Malmö to feel like they have the power of choice but also of affecting the development of society (Malmö Stad, 2019).

Another avenue of influencing food consumption through this mode of governance is to provide land for urban farming, which was mentioned in one of the interviews. The interviewee does not elaborate too much on the topic but mentions that two colleagues in another department are now working with finding new areas and land for this type of activities. By providing opportunities such as land for local farmers and supporting local food markets, the municipality can help decreasing the GHG emissions from society's food consumption (Civil servant, personal communication, March 25, 2021).

Homes

In the context of peoples' homes the typical example of governing by provision is decision power over the production and distribution of heat and electricity that has a direct influence on the homeowners' energy consumption. In the document *Action plan for the environmental program – proposals for prioritized actions in Malmö city 2019-2020*, an example of this can be found in the following quote where Malmö proposes to '...work to decrease the energy usage through optimization and energy interventions in the buildings the municipality owns or manages ... Target goal: A decrease of 30 % until 2020, compared to the usage in 2001-2005.' (Malmö Stad, 2019).

The part that is of interest for this study regarding this statement is not so much the municipality's buildings for its own organization but rather the buildings where people live, such as Malmö Municipality housing, since energy efficiency measures taken here will have a direct impact on private citizens' energy consumption. Furthermore, my data does not entail whether this goal was reached or not. Perhaps it is too early to tell.

An example of how new technology is being developed to increase the efficiency of the energy system itself can be seen in the same document.

In Hyllie, measures are taken to create smart systems for energy ... The measures taken will be evaluated and the possibility of transferring them to other areas of the city will be investigated. The work will be a part of all new constructions and renovations that Malmö municipality is involved in. (Malmö Stad, 2019).

Sege Park is another area in Malmö that is constantly appearing in discussions regarding sustainability and is a quite unique and interesting example of how the municipality can work with strong governing of issues that are not solely energy related. The area has park like features that surrounds the buildings which previously housed a mental hospital. In 2025 the goal is to accommodate

approximately 2000 people in this housing area (Malmö Stad, n.d.a). One of the interviewees said the following.

Sege Park is a good example of where we have taken the overall control. It will be Malmö's newest and most climate-smart district. There we have taken more control, instead of selling the lots and letting the developers do what they want, the environmental department has been the driving force. Now we are taking a mutual handle on this, there will be a sharing economy, more resource efficiency, social interactions and urban farming. (Civil servant, personal communication, March 19, 2021).

Malmö municipality owns the land and is the big driving force in the development of Sege Park. Since the municipality, through the developers, provide sustainable services such as tools in a sharing economy as well as having some direct power through the legally binding detailed plan, this could arguably be seen as a mix of governing by provision and governing by authority. This is not unusual in a big development project like this one, where many aspects such as transportation choices, housing, and even food consumption via urban farming are to be considered.

Another example of how Malmö provides avenues for an increased sharing economy is through supporting local initiatives such as Fritidsbanken and ReTuren. Fritidsbanken is a place where people can donate and borrow sporting equipment, free of charge (Fritidsbanken, n.d.). ReTuren is a recycling place and a meeting place where the citizens can get rid of household waste they otherwise cannot easily discard. They can use the workshop to repair their things or partake in workshops on sustainable consumption choices (Malmö Stad 2021d).

SipTex, Swedish innovation platform for textile sorting, is another interesting example. It is the world's first automatic big scale facility for textile sorting that facilitates the reuse or recycling of textiles. It started as a research project between municipalities, clothing corporations and authorities but has now been bought by Sysav, the waste company owned by fourteen Scania municipalities. Located in Malmö and with the capacity to sort 24 000 tons of textiles yearly, it has the possibility to decrease the citizens' emissions related to their consumption of clothes through the reuse and recycling of textiles (Civil servant, personal communication, March 25, 2021; Sysav, n.d.).

Governing through enabling

Governing through enabling is one of the most prevalent modes of governance that Malmö municipality employs to steer its citizens' consumption. This is unsurprising seeing since citizens' consumption choices are typically not within the

municipalities direct control and is oftentimes best influenced through soft measures such as information and inspiration (Palm et al., 2019). Keywords such as cooperation and forming networks with the citizenry is oftentimes used in official documents (Malmö Stad, 2021a). However, these documents are typically very general, and the municipality rarely elaborates on how to achieve it. Examples of general ways of working with enabling measures were discussed during one of the interviews where the civil servant described how the municipality communicates with its citizens regarding consumption patterns. This is how he describes these communication tools.

It wasn't that long ago we went from every project having its own Facebook or Instagram page to us gathering everything under the environmental department under 'it should be easy doing the right thing' in Malmö. Since then, it has become a whole new thing, with a lot more coordinated control. And it is a new thing with the environmental department having its own LinkedIn page that is targeted more towards companies and people during their career choices, so to speak. Facebook and Instagram are more directed towards private citizens. So that is a communication channel, or a tool for communication. We oftentimes try to get some sort of dialogue going, so it isn't just us as a transmitter, or that it's only a monologue. (Civil servant, personal communication, March 19, 2021).

The civil servant highlights how communication and dialogue are important tools in the municipality's work with sustainability issues and that social media such as Facebook, Instagram and LinkedIn are increasingly used for these purposes. Communication and dialogue are both examples of how a municipality governs through enabling measures. It is also clear that this type of work has gained in priority with a more coordinated approach. On top of that the civil servant informs me that the municipality hosts four information activities every year on these topics, which is a criterion they must fulfill to be part of the Fairtrade city network, an international network that works with ethical trade but also ecological sustainability (Civil servant, personal communication, March 19, 2021).

Transport

The documents and interviews show very few examples of governing through enabling when it comes to sustainable transportation choices. One such example is how Malmö municipality wants to promote carpools through dialogue with construction companies. Another is how the municipality sees collaboration with surrounding municipalities, authorities, and organizations as a necessity to make bicycle- and public transport the primary choice of transport in the regional traffic planning (Malmö Stad, 2016). Economical governance instrument is a tool mentioned in the following quote from one of the civil servants: "Economical

governance instruments can be used in some cases, parking fees and tariffs for public transport are things we can steer to some degree.” (Personal communication, March 19, 2021).

Steering through financial incentives is a typical enabling measure. By setting the price of e.g., parking, the municipality can have an indirect influence over the number of cars in dense areas such as city centers.

The ‘Smart map’ was brought up during the same interview in the context of other categories of consumption (Civil servant, personal communication, March 19, 2021). This is a tool that the citizens can use to find cheap or free products and services. One such service that applies to transportation is information on where to find rental bicycles (Smarta Kartan Malmö, n.d.).

Food

One of the civil servants is involved in several projects aimed at influencing private citizens’ consumption of food. The municipality participates in Food wave, an international collaboration project targeting young people between the age of 15-35 where health issues of food are put in relation to climate issues. It is described as follows.

In cooperation with nonprofit associations and youth associations that wants to do something we can help supporting them in doing it. It is not just about us doing things from the municipality, it is also about supporting the civil society that does different activities. So that is also a way of influencing the consumption. (Civil servant, personal communication, March 25, 2021).

Collaborating and networking are good examples of how a municipality works with enabling governance.

Another project the municipality helps initiate is a local food council, the first one in the Nordics, inspired by a concept used in the US and UK. Issues regarding sustainable foods from a social, economic, and ecological point of view is to be discussed in this forum that is to be run by a non-profit organization. They will combine different ways of promoting Malmö as a sustainable food city, something that hopefully will inspire others (Civil servant, personal communication, March 25, 2021). Again, networking, and inspiring people are typical indicators for governance through enabling.

Malmö has an official policy for sustainable development and food. It mainly addresses the municipality’s internal organization, but it does state that Malmö should act as a role model when it comes to food and spread knowledge to visitors as well as people living in Malmö, which can be seen in the following quotes.

We will present Malmö as a role model when it comes to sustainable development as well as spreading knowledge about our work. The food we serve at representations and events work as display windows for traditional and new Scanian food culture. (Malmö Stad, n.d.b).

Malmö will also, in different ways, give the people of Malmö knowledge about how the food affects the climate, health, environment, and the producers so that they can make conscious decisions. (Malmö Stad, n.d.b).

Spreading knowledge and being an inspiration as a role model are indicators of governing through enabling.

Via documents available on their website Malmö clearly puts an effort into informing on the benefits of a plant-based diet and how to limit food waste. In the document named *First help for leftovers* Malmö describes how leftovers such as potato, bread, and cooked pasta can be reused in different ways (Malmö Stad, 2017). In another document named *Climate smart food – a fully fed handbook* the municipality informs the reader on nutritional values of plant-based foods, a few recipes on how to cook sustainable dishes are presented, and a few myths on the lack of nutrition in vegetarian foods are addressed and debunked (Malmö Stad, n.d.c). These documents are published on the municipality's website and one can argue that if this is the only place they are communicated, they might not reach many citizens. However, I do not know whether they are used in any further communication from the municipality. The fact that they exist does say something about the priorities of the municipality when it comes to sustainable food consumption on the household level.

Homes

Via Malmö municipality's website named *Solar energy in a smaller format*, citizens can get information and tips useful when investing in solar panels for their homes. The municipality communicates that it has energy and climate advisors that are impartial professionals who can help citizens with such questions (Malmö Stad, 2021e). Another website named *Solar guide – information on solar energy* contains several sub-links with information. Which side of the roof to put up the solar panels on, based on the roof's angle and how the sun hits the roof from different directions, examples of different types of solar cell equipment, and economical grants citizens can apply for (Malmö Stad, n.d.d). Such information provided by the municipality to facilitate its citizens sustainable energy choices are clear traits of governing through enabling.

Challenges

When asking the civil servants what they view as the biggest challenges in the municipality's work in steering the citizens' consumption behavior the municipality's own knowledge was brought up as an issue. The municipality itself is early in the process of knowledge creation when it comes to governing citizens' consumption, which naturally makes it difficult to be effective. One interviewee said that explaining the gravity of the climate threat to people without scaring them to death is another challenge. They need to understand how serious the situation is, while still being motivated and having the hope to do something about it. A lot is still to be done when it comes to explaining the gravity of the situation (Civil servant, personal communication, March 25, 2021). The other civil servant argues that it is too difficult to see the whole picture and mentions the rebound effect. If people consume less in one category, how can the municipality know that they do not simply spend the money saved from the initial decreased consumption to consume something else that emits GHG? The respondent also says that many civil servants wonder if the politicians really understand the changes necessary to reach the goals they set. Political divide and shifting priorities are highlighted as challenges (Civil servant, personal communication, March 19, 2021).

Gothenburg

Quite a bit of attention is devoted to GHG emissions from consumption in the municipality's environment and climate program. The goals are ambitious, and the plan is to decrease the emissions by 7,6 % yearly until 2030, which would mean a decrease of 64 % between 2017 – 2030. Gothenburg communicates that the municipality can reach these goals through several avenues. Examples of these are city and traffic planning, decreasing the energy consumption of the homes via substantial control over the local heat and electricity production, spreading knowledge via consulting and education, enabling more sustainable lifestyles and consumption patterns (Göteborgs Stad, 2021).

In an investigative report of necessary measures to make Gothenburg fossil fuel free, similar, and additional, avenues are mentioned. Gothenburg can influence the consumption emissions via an extensive long distance heating system, an effective waste incineration plant with electricity and heating production. Additionally, the agricultural sector must become fossil fuel free, and the consumption of meat and dairy must decrease. According to the report, municipal budgets show that political will for change is big and Gothenburg is described as a world leading city in facing the environmental and climate threats (Göteborgs Stad, 2018).

The municipality has ambitious goals for bicycling. Gothenburg wishes to increase the portion of bicycle trips threefold by 2025, as compared to 2011. Currently 7 - 8 % of trips are taken by bicycle and the goal is approximately 20 - 25 % by 2025. Emphasis will also be put on improving the image of Gothenburg as a biking city, with the goal that 75 % of the citizens should view Gothenburg as a bike friendly city by 2025 (Göteborgs Stad, 2015).

Interestingly, Gothenburg divides its influencing power into three levels regarding the governance of different consumption areas. Via direct influence the municipality can affect heating and electricity distribution. Via indirect influence the municipality can influence transportation choices via city planning and provide pre-requisites for other actors to choose more climate friendly alternatives. Via 'influence on a detour' the municipality can have an influence on consumption choices such as food, flight travel, clothes, and electronics through soft measures such as information. These levels of influence are interesting since they fit quite well, however not exactly, together with this thesis' three modes of governance (Göteborgs Stad, 2018). The aforementioned examples of consumption mentioned in the strategy documents will be further elaborated on under appropriate sections below.

Governing by authority

Transport

The infrastructure of Gothenburg is undergoing substantial changes through massive construction developments in the city. One of the respondents, employed at the traffic office, said that due to these changes, most of the department's focus is on new construction, and not so much on the users of the existing city parts' transportation system (Civil servant, personal communication, April 06, 2021).

Given the changing city, much is written and communicated on improving the public transport, walking, and bicycling options. The traffic strategy for Gothenburg that stretches until 2035 entails massive efforts on public transport. A so called 'fast network' is going to be developed to increase the possibilities of a time efficient public transportation system. Long distance buses and commuter trains are to be connected to this system. The goal is to make public transport competitive with car transports when it comes to travel time. To make place for more public transport stations it is likely that several of them will be lifted above ground level or moved down underground (Göteborgs Stad, 2014). City planning is a clear example where the municipality have the authority of governance. More detailed plans of the changing city can be found in the bicycle program that stretches from 2015 – 2025. Bicycle paths are to become prioritized above, and increasingly separated from car traffic as well as becoming shorter and more time efficient. All to increase bicycling's appeal. The bicycle infrastructure will also

become more coherent (Göteborgs Stad, 2015), something that was lifted during one of the interviews.

We received 32 million in the city environment deal to improve walking paths and bicycle paths ... our bicycle network is not complete, it is a bit ugly here and there ... then there is the comfort of having a flow when you bike, so we should think about prioritizing the dangerous parts of the traffic and get rid of those first. (Civil servant, personal communication, April 06, 2021).

Using city planning to improve the safety of the bicycle road network is described as an important prioritization for the city. Additional funds have recently been devoted to improving the bicycle infrastructure. Another measure taken by the municipality is to build more bicycle parking (Göteborgs Stad, 2015).

A test project called *ElectriCity Göteborg* has been underway. It is a collaboration project with the region, academia, and several corporations, Volvo being one of them. The goal was to face the challenges and create the knowledge necessary for electrifying the public transportation system in the city, and it is described by the municipality as a success. There has been a demo arena where electrical buses have been tested. The traffic office has built the bus stops for one electric bus line as well as a geofencing system, that decides how the bus drives in different parts of the city (Göteborgs Stad, n.d.a). All this led to *Västtrafik*, the main public transport company in the region, introducing 150 electrical buses on 34 bus lines as of December 2020. This made the region the biggest player in the Nordics when it comes to electric buses. *Västtrafik*'s long-term goal is that all city traffic in the region will be run on electricity (Electricity, 2020). *Västtrafik* is owned by the region and not the municipality, which arguably means this effort is not only a result of Gothenburg's work. Gothenburg is however by far the biggest municipality in the region and does logically have the biggest influence on the decisions being made in the region. Buses being put into use arguably belongs within governance by provision, while the work done on city planning and infrastructure in the city within the *ElectriCity* project trends more towards governance by authority.

Lastly, in Gothenburg there is a tax connected to entering the inner city by car. If the owner does not pay the tax, he/she will have to pay a fine (Göteborgs Stad, 2014). This can be seen as an authoritative governance measure since the municipality regulates this system and have the power of economic sanctions if it is not followed. However, it can also be considered a financial incentive for people to use public transport instead of taking their car, which would fall under governing through enabling. As in most situations where a municipality governs, there is spillover between the theoretical classifications, there are no watertight walls in between the modes of governance.

Food

No examples of authoritative measures of governance regarding the consumption of food could be found in the data.

Homes

No examples of authoritative measures of governance regarding the consumption related to peoples' homes could be found in the data.

Governing by provision

Transport

Various examples of provision of infrastructure, practical mechanisms, and services were found regarding the steering of the citizens' transportation choices. Gothenburg is to invest in buses run on electricity and biogas and a bigger infrastructure for charging electric vehicles (Göteborgs Stad, 2018). Much focus is put on providing better circumstances for bicyclists. The access to rental and loan bicycles are examples of this. Apps and websites such as trafikenu are others (Civil servant, personal communication, April 06, 2021). The municipality communicates that they will improve the standards of the bicycle roads so that it is viable throughout the whole calendar year, bicycle pump stations and digital signs with important information for bicyclists are other measures taken (Göteborgs Stad, 2015). Via the website *biking in Gothenburg* further information is communicated regarding services available for bicyclists in the city, such as secure parking places and the locations of rental bicycles (Göteborgs Stad, n.d.b). Information is typically an indicator for governance through enabling. However, services such as parking places and rental bicycles belong more to governance by provision.

A program aiming to encourage children to walk, bike or commute with public transport to school was discussed during one of the interviews.

We have a concept called 'on your own feet'. It is an encouragement during the fall semester for children to walk, bike or use public transportation to school. They receive points, the classes collect points, you get a point if you walk with an adult etc. So, you compete, and you can win prizes. (Civil servant, personal communication, April 06, 2021).

A project like this can arguably be seen to also fit within governing through enabling, since it is voluntary and certain incentives are connected to it. However, despite not being mentioned in the quote, the respondent elaborated on how this way of thinking is translated into an education package that can be used by the class teachers in educating regarding sustainability and health issues (Civil servant,

personal communication, April 06, 2021). Such a package can also be seen as a good, or service, provided by the municipality. Furthermore, a concept like this one is meant to include the parents, since the children get points for walking to school with an adult. It is a way to decrease dangerous traffic to and from the schools, as well as providing mechanisms for more sustainable transportation choices.

Food

Very few examples of the municipality providing circumstances or services connected to the citizens' food choices were found in the data. The only instance is arguably one report that suggests that the municipality could choose to only serve vegetarian or vegan food during different municipal events (Göteborgs Stad, 2018). Through these choices in arenas where the municipality has decision power, they can provide certain circumstances that may influence its citizens' food choices. The report does not entail whether this is being done or not.

Homes

The single biggest measure of governance by provision is the supply of sustainably produced electricity and heating to the homes in Gothenburg municipality. The following can be found in the environment and climate program.

Through Göteborg Energi, Gothenburg city owns heat and powerplants that produce heating and electricity, partly by fossil fuels. To reach the goal, the fossil fuel driven plants are to be phased out or converted to using renewable fuels by 2025 at the latest. (Göteborgs Stad, 2021).

The goal mentioned here is to go from today's approximate levels of renewable electricity production around 20 % and renewable heating production around 70% to 100% renewable electricity and heating production by 2025, within the plants owned by Göteborg Energi. This change would arguably have a big impact on the households' consumption of energy. Part of the municipality's energy production comes from waste incineration plants and from waste heat from industry, such as oil refineries. Regarding the incineration plant, it is described as top modern in a European context and that the big need for waste disposal internationally combined with this modern facility makes for a more sustainable situation in the international context. Long term however, the municipality admits that it is not sustainable to produce heating from fossil fuel-based materials (Göteborgs Stad, 2021).

The municipality has energy and climate advisors that partly works towards the private citizens of Gothenburg. When discussing climate questions and the job as energy and climate advisor the interviewee said the following.

We mainly handle technology questions, almost exclusively ... If I imagine getting a question regarding the climate: like, how can I contribute to the

climate? Well, energy efficiency is the answer. The cheapest and most environmentally friendly kilowatt hour is the one that is never used. (Civil servant, personal communication, March 17, 2021).

The position as energy and climate advisor arguably also belongs under the enabling mode of governance since they do work with information towards the citizens most of the time. However, since they are employed to provide a community service with expertise on technology questions where they do physical house calls, I argue that it also fits under governing by provision. Interestingly, despite climate being part of the job title, climate questions seemingly seldom come up in the respondent's line of work.

Another example of governance by provision is the municipality's support of the sharing economy. Sharing locations and markets in the city are suggested to be increasingly supplied by the municipality (Göteborgs Stad, 2018).

Governing through enabling

A part of the consumer- and citizen administration is devoted to sustainable consumption. The smart map, Fairtrade city Gothenburg, and circular economy initiatives are communicated through the department, where GreenhackGBG is one such initiative. It is a channel of information and inspiration directed at the private citizens of Gothenburg. Using social media such as Facebook and Instagram, they create discussions as well as invites professionals from around the city organization, civil society, associations, companies, and academia to inform and engage on matters regarding sustainable consumption. Many aspects of a sustainable lifestyle are discussed, categorized via a model called the lifestyle wheel with categories such as food, shopping, housing, traveling, and leisure time, among others. The initiative is described by the civil servant (Personal communication, March 29, 2021) as a co-creation of knowledge regarding sustainable consumption, where Gothenburg wishes to learn in unison with the citizens what is needed to transition into more sustainable lifestyles. Seminars, workshops, and the yearly sustainability festival are other avenues where GreenhackGBG operates to reach the citizens. Interestingly, during the Covid-19 pandemic the civil servant has seen an increase in sustainability initiatives from the local population, such as newly started pod casts and local influencers discussing sustainability (Civil servant, personal communication, March 29, 2021). Perhaps this is a result of people having more time due to the pandemic, but it is interesting to note that measures associated with governing through enabling is increasingly being initiated by the local population.

Transport

The municipality strives for fewer car transports in the city and more public transport, walking, and bicycling, which has already been covered. The investigative report *Fossil fuel free Gothenburg – what does it take* argues that the most efficient tool the municipality has is the crowd tax for cars entering the city, a tax that also has been mentioned under governance by authority. However, the second most effective tool is considered to be parking fees, a tool that Gothenburg has good possibility to use since they have influencing power over a big part of the city's parking lots (Göteborgs Stad, 2018). By increasing the price of parking in the city, a financial incentive is created for the citizens to elect cheaper and more sustainable options, such as public transport. Financial incentive is an indicator of governance through enabling. It is a way for the municipality to persuade the citizens to choose differently.

One of the interviews was conducted with a communicator within the traffic department of Gothenburg. The respondent works a lot with different ways of influencing citizens' sustainable transportation choices. One method employed to reach the citizens is to go via companies, the citizens' employers. In that way the municipality can easier reach larger number of citizens than they could by contacting them individually. The civil servant said the following.

We try to talk to the companies about this, and it is getting easier and easier because many companies want to work more with these questions, what they can do themselves. They can fix secure bicycle garages and shower rooms and maybe give benefits to people who bike to work, they can receive health care hours for example. So, if you bike to work you can perhaps use that time as working time. (Civil servant, personal communication, April 06, 2021).

Gothenburg attempts to not only inform citizens but also create incentives for them to make more sustainable transportation choices via their employers. In that way the municipality works with information and engagement campaigns, typical traits of governance through enabling, while the companies can get inspired to create and fund the incentives necessary to reach the desired effect. Another method that currently is under development was discussed during the same interview.

In Masthuggskajen there is a development project where we will test an SMS service, it builds on us finding out, within a geographic area, which cell phones are registered there, and then you send them information ... You reach maybe 65 % of all residents in an area and then they get an SMS where we will write that they can go into a map and check the availability for different transportation choices and read about how they can travel sustainably in that geography. (Civil servant, personal communication, April 06, 2021).

Gothenburg works with several new methods and strategies in their attempt to reach their citizens and engage them into rethinking their transportation choices.

When reading the municipality's bicycle program stretching from 2015 – 2025, four communication strategies are mentioned that are to increase the biking in the city. Image communication concerns connecting Gothenburg with biking in general and creating relationships with bicyclists. This is done by supporting bicycle races, bicycle conferences or conducting research campaigns on possible improvements the bicyclists' request. Product communication concerns the city's credibility as a biking city. It is about informing on the available infrastructure as well as the safety levels and time efficiency of biking in different parts of the city. Behavior-influencing communication is about getting more people to bike. This is achieved by working with employers, universities, and schools. An outspoken strategy here is to focus on schools with young students, since if the municipality can influence young peoples' transportation choices, this will have a positive effect on the levels of biking in the long run. This is an example of how the municipality works with norms of transportation choices. Affecting young people is more likely to have a long-term effect than targeting adults. The fourth communication strategy is to inform citizens about bicycling during the large-scale construction happening in the city.

Food

Few examples of governing through enabling were found regarding influencing the citizens' consumption choices. One example is the aforementioned tool called smart map. Through this map the citizens can find information on where to pick free fruits or where they can save food from being thrown (Smarta Kartan Göteborg, n.d.). Another example is the brochure named *30 ways of decreasing your waste*. The name is self-explanatory and the tips concerning food are to not take more from the buffet than you can eat, and to bring your own container when buying take out (Göteborgs Stad, n.d.c).

One passage of interest concerning food was found in the report *Fossil Fuel Gothenburg, what does it take*.

The city has very little influencing power when it comes to the private food consumption. However, by only serving vegetarian or vegan food in the municipal organization and on city events, the children, students in preschools and schools, and visitors of events are affected so that they can make a change in their behavior. This since it changes the view of what is the norm. (Göteborgs Stad, 2018).

Indirect inspiration and working with young people and norms are lifted as necessary tools. The message here sounds good. However, it is merely a suggestion from the report of what the municipality can do and says little about what the

municipality does on this area. Similar information was not found or mentioned anywhere else in the data. It is however published via the environmental department of the municipality so it should have some bearing on the way the municipality works, or attempts to work, with influencing private food consumption.

Homes

Gothenburg's energy and climate advisors works with several enabling measures to affect private citizens' consumption of energy. Marketing tactics such as newspaper ads, appearing on radio, sending out letters as well as knocking on peoples' doors are employed to reach the citizens. The respondent gives an example of what a house call can look like.

Many people contact us regarding solar cells ... charging stations as well but mainly solar cells ... we go through a lot of relevant information with them, such as support, grants that they need information about. How do I apply? Where do I apply? What do I need to think about, regarding the grants? Then there are the more technical aspects, how big should the solar cell equipment be? What is reasonable? What type of solar cells can I have? (Civil servant, personal communication, March 17, 2021).

The advisors guide the citizens through questions such as these, free of charge. By increasing the citizens own knowledge about sustainable energy systems, they enable them to make better decisions. The respondent elaborates and explains that people mainly contact them because they have the expertise and that they are impartial. Specific brands of e.g., heating systems are not recommended, the advisors rather inform on the general need-to-know necessary for whatever change it is the citizens wants to accomplish. Much of the work is done digitally and via the phone, something that increased during the Covid-19 pandemic. For example, via Google Maps the advisor can discuss the angles of the citizen's roof and see where solar panels are viable. Assistance via the phone has increased more than 60 % since the start of the pandemic (Civil servant, personal communication, March 17, 2021). Seemingly this has increased the advisors impacts since they are able to reach more people via phone than they could ever manage in person.

Via the document *30 ways of decreasing your waste* actions such as choosing digital invoices, saying no to commercial, reusing bags and cups, and choosing used furniture and textiles are exemplified as actions the citizen can take to decrease the ecological footprint of their consumption choices related to their homes (Göteborgs Stad, n.d.c).

In collaboration with local academia and corporations, the municipality is part of a national program called *Sharing Cities Sweden*. Different ways of developing possibilities for the citizens to share things such as tools, toys, and clothes locally

are being experimented with in this program that started in 2017 and runs until 2021. Nationally it is coordinated by Lund University (Göteborgs Stad, n.d.d). Another similar initiative taken by the municipality is *Circular Gothenburg*. Through supporting local avenues of sharing, the municipality wants to make it easier for the citizens to re-use, share, and fix things (Göteborgs Stad, n.d.e).

One report argues that Gothenburg can increase the incentives for energy efficiency in peoples' homes. Examples of how to achieve this are lowering the fees for district heating and the permission for construction, systematic work on behavior change through support, inspiration, and green rental contracts (Göteborgs Stad, 2018).

Challenges

One obstacle that is repeatedly mentioned during the interviews is the difficulty to reach different groups in society. Information campaigns are described as slow and difficult to follow up, new rules regarding data rights (GDPR) force the municipality to throw out registers with contact information after twelve months, making it impossible for them to re-use the lists for further information campaigns (Civil servant, personal communication, April 06, 2021). There are also groups in society of which the municipality has limited information about, information that may be important in the municipality's work to achieve engagement and change (Civil servant, personal communication, March 29, 2021).

Understaffing, rapid budget changes, and political instability are other factors described as challenges to the civil servants' work in affecting change in the citizens' consumption patterns (Civil servant, personal communication, March 17, 2021; Civil servant, personal communication, April 06, 2021). One example of this was the project named *biking city*. It was a project aimed to increase the levels of biking in the city, which was promised finances for three years, but after one year the financing disappeared, seemingly with no explanation (Civil servant, personal communication, April 06, 2021).

The depiction of car owners having received all the benefits when it comes to transportation incentives over the years is described as another obstacle to increasing the levels of biking. Inequality between the modes of transportation and the circumstances that enable them are lifted a couple of times during one of the interviews. The respondent argues that it is vital to support bicyclists more and work with the norms of transportation choices in society. Incentives and the level of comfort that has been given to the car owners throughout the years now need to switch over towards bicyclists. Poverty issues with people in Gothenburg that currently cannot afford a bicycle is lifted as another topic that needs to be worked with (Civil servant, personal communication, April 06, 2021).

The environment and climate program's description regarding the lack of the municipality's influencing power when it comes to certain categories of sustainable consumption can also be understood as challenges (Göteborgs Stad, 2021).

Comparison Malmö – Gothenburg

There are several similarities in how the two municipalities work with influencing their citizens' consumption patterns. Both municipalities have ambitious goals of lowering their GHG emissions in general and in lowering the emissions generated from the energy consumption of peoples' homes. Although similar measures are taken on this front, Gothenburg arguably has the bigger possibility of change since they own the local energy company, Göteborg Energi, whereas Malmö is dependent on cooperation with EON as the main provider of heating and electricity (Civil servant, personal communication, March 25, 2021). Other similarities are projects of which both cities are a part of, such as sharing cities, Fairtrade cities, the smart map, and the climate contract of 2030. Both municipalities have launched or supported projects within the sharing economy with the goal of increased sharing and decreased the need for ownership. Both municipalities have similar ways of informing, engaging, and discussing with its citizens, such as energy and climate advisors and their focus on working via social media.

There are also differences of interest. When it comes to the category of food consumption one can see a wide array of projects, initiatives, and information campaigns with the goal of decreasing foods' effect on the climate from the municipality of Malmö, while discourse regarding food is barely found during the data analysis of Gothenburg. Gothenburg is very open with their limited powers when it comes to affecting the citizens consumption patterns and seems to focus much more on hard measures such as huge development projects and big city transformations. Malmö puts more efforts into soft measures such as inspiration, information, and education. Perhaps this is partly due to the different sizes of the cities and their financial muscles, but it also speaks to them having different overall strategies. Another difference is the way the municipalities are organized. As opposed to Malmö, there are several departments in Gothenburg that work with these issues, one example being the consumer and citizen department. In Malmö, much of the work is seemingly concentrated within the environment department. A simple explanation could be that Gothenburg is the bigger of the two. Some of these aspects will be elaborated on in the discussion part of this thesis.

Results

How does Swedish municipalities govern to make their citizens consumption more sustainable?

Gothenburg and Malmö municipality both make use of all three modes of governance explored in the theoretical literature, governing by authority, provision, and through enabling. The mode that is the most used is governing through enabling, followed by governing by authority and governing by provision. Enabling measures are typically in the form of information and inspiration campaigns but also educational where both municipalities work with e.g., young people in schools to influence the long-term norms regarding their consumption patterns. The municipalities also drive projects and supports local initiatives that can lead to a more sustainable consumption locally. Regarding authoritative measures the municipalities typically work with city planning such as building more bicycle paths and improving public transports. Supplying sustainable heating and electricity through self-owned energy corporations or partnerships with private energy corporations is the typical example found of governing by provision.

How does Swedish municipalities strategize concerning future governance of their citizens' consumption patterns?

When conducting the interviews few clear strategies are mentioned. The civil servants typically refer to the official municipal goals that are communicated in the official documents and websites of the municipalities. Strategies found in the documents, to mention a few, are to increase the amount of bicycle paths and the image of biking in general, to decrease car use through financial incentives, to increase the usage of public transport, to further decrease the percentage of fossil fuel in the municipalities' energy production, and to focus on young people in schools to educate them regarding sustainable lifestyles.

Which challenges exist in municipal work for a sustainable consumption on the household level?

Knowledge of which actions are suitable to steer private citizens' consumption patterns is highlighted as an obstacle. Political instability and budget constraints are other issues. It is seemingly difficult for the municipality to reach all groups in society and there is a described inequality between the different modes of transport. The vastness and complexity of the issue is also a challenge, where the example of the rebound effect is lifted.

Discussion

Sustainable consumption on the household level is a rather new area for the municipalities to govern. It is inherently difficult to govern since consumption choices are typically in the hands of the citizens. However, it is fair to say that the two municipalities employ many of the governing measures discussed in the theoretical literature on local governance. City planning towards sustainable cities, the provision of energy, and informative efforts regarding sustainable development are initiatives taken in both municipalities (Axelsson et al. 2019; Palm et al, 2019; Smedby & Quitzau, 2016).

Although the municipalities seemingly stick to the established ways of working with sustainable development issues there are new efforts being pursued as well. Malmö's efforts into governing unsustainable food consumption in the municipality is one example of this. In Gothenburg almost no information is to be found on how they work to influence their citizens' consumption patterns when it comes to food. It is not mentioned in any of the interviews, it is barely mentioned in the environment and climate program stretching until 2030. It cannot either be found on the website named sustainable consumption. In Malmö the civil servants extensively discuss the topic and there are several projects and websites devoted to the issue. This goes along with Malmö's image as being a progressive city when it comes to ecological sustainability. Malmö was the first city in Sweden to join the international Fair Trade City network and is currently starting up the first food council in the Nordics (Malmö Stad, n.d.e; Civil servant, personal communication, March 25, 2021). Perhaps it makes sense that Malmö is quicker to break the mold on the big emitter that food consumption is. Since Malmö is the smaller city with the smaller financial muscles it makes sense that they focus on soft enabling measures rather than expensive hard measures, such as the huge development projects taking place in Gothenburg. The traffic office being described as focusing on construction rather than the traffic users by one of the civil servants is quite telling. However, Gothenburg's openness regarding their lack of influence when it comes to food show that this area is not prioritized (Göteborgs Stad, 2018).

However, Gothenburg is progressive on other measures taken. New communication strategies such as contacting people in certain geographic locations via SMS are being tried (Civil servant, personal communication, April 06, 2021). Another area where Gothenburg is further along than Malmö is knowledge concerning their emissions related to consumption and the municipality's work on

a CO₂ budget. Gothenburg was the first city in the world to adopt a consumption-based climate goal in 2014 (Danielsson & Magnusson, 2018). Since the first step is typically to learn about the problem, Gothenburg is progressive too.

Another interesting, and perhaps disheartening, finding is that the civil servants did not have a good grasp of strategies on how to reach the municipal climate targets. Much of my answers for the research question concerning strategies were found in documents or between the lines of the interviews. This does arguably not bode well if it is true that civil servants are the key local players in achieving change, as argued by Axelsson et al., (2019). This could also be considered criticism against the local political leadership. If the civil servants do not know the way forward it is perhaps not very well communicated from above, and political support is considered by Axelsson et al. (2019) as another factor necessary for achieving real change. Unstable political leadership and a lack of sufficient funds are obstacles highlighted during several of the interviews (Civil servant, personal communication, March 17, 2021; Civil servant, personal communication, April 06, 2021). This finding could be seen as a representation of how the local political debate on sustainable consumption is still in its infancy.

Further research on effective local governance measures of consumption patterns is much needed. Future research could examine what the citizenry requires from local leadership when seeking more sustainable consumption patterns. Better understanding the citizens' needs seems crucial to have an actual effect in steering them, since consumption choices are typically in their hands. Additional governance research like this one could include many more municipalities and investigate how medium sized and small municipalities work, or can work, to govern their citizens' consumption patterns. This would help further improve knowledge of Swedish municipal work in this area.

Finally, I found the municipalities way of working with young people and the norms surrounding consumption patterns the most interesting finding. Several interviewees argued that the municipality have the chance to achieve change when working with young people and the older the citizen gets, the less influence they have (Civil servant, personal communication, March 19, 2021). Malmö municipality have spent much effort on delivering the circumstances for sustainable foods in schools and engaging young people in the topic of sustainable food consumption in general (Civil servant, personal communication, March 25, 2021; Malmö Stad, 2021f). The municipality plays the long game, attempting to enact change in what young people consider to be the norms so that they can inspire their families at home but also bring it with themselves into adulthood. This way of thinking goes well along with the international view on youth's importance for sustainable development. Youth has since the Rio conference of 1992 been considered to be a key stakeholder on sustainable development and as a group having the right to participate in decisions affecting their future (Buttigieg & Pace, 2013). Their engagement in how decisions on climate change is being formulated

and implemented is highlighted and Article 6 in the United Nations Framework Convention on Climate Change advocates educational programs for all stakeholders, including the youth (Narksompong & Limjirakan, 2015; UNFCCC, n.d.). Considering the difficulty of changing norms in society it is noteworthy to highlight what one civil servant said regarding locals taking more sustainability initiatives during the Covid-19 pandemic due to having more time for reflection and conscious behavior. During the pandemic many have suddenly started working from home and both employees and employers consider this being a viable alternative for the future (Persson, 2020). These, and all other sudden changes the pandemic brought with it, made the territorial GHG emissions of Sweden decrease by 7 % in 2020, a level close to the yearly decrease in emissions necessary to reach the national climate target for 2045 (Naturvårdsverket, 2021). Perhaps these developments can give some hope to peoples' ability to rapidly change when the circumstances require it. Either way, it shows how quickly norms can change. However, as the case was with Covid-19, does this also mean that the crisis of climate change needs to be upon us before we finally act? I hope not. Changing the hearts and minds of people is a difficult endeavor, but indeed one that is worthwhile.

Conclusions

This small number case study set out to examine how Malmö and Gothenburg municipality works with governance of its citizens' consumption levels and consumption patterns. Strategies and challenges were also explored. My qualitative content analysis showed that the two municipalities employ all modes of governance to steer its citizens' consumption levels, governance by authority, governance by provision, and governance through enabling.

When governing by authority the municipalities typically develop the city in a more sustainable fashion, such as adding more public transport or improving the bicycle infrastructure. The typical example of governance by provision is how the municipalities supply sustainably produced heating and electricity for their citizens' homes. Enabling measures found were information campaigns and educational measures, such as social media communication and working with consumption norms with young people in schools.

As for strategies, few clear ones were found. The municipalities plan to do more of the same, such as decreasing the levels of fossil fuels used for transportation and energy production by increasing the availability of sustainable alternatives, such as an improved bicycle and public transport infrastructure. To focus on young people and their view of consumption norms is another strategy worth mentioning.

Key challenges that were reoccurring throughout the interviews were knowledge regarding effective governance measures, lack of political long-sightedness, and budget constraints. The sheer scope of the issue is also described as a challenge, where consumption is a part of almost all life decisions and is as such difficult to isolate, comprehend, and steer.

The municipalities are in a big need of knowledge regarding what needs to be done to successfully govern its citizens consumption patterns. Before they know how to steer our consumption of goods and services it is unrealistic to expect them to achieve much actual change. However, both municipalities are progressive in their work with sustainable consumption, Malmö with its work within sustainable food consumption and Gothenburg with its CO₂ budget and its ambitious goals regarding consumption emissions. Furthermore, both Malmö and Gothenburg work to achieve change among the young populations in their municipalities and as such they work with changing young peoples' view of what the norms of consumption patterns are and should be in the future. If they manage to accomplish actual change

with the young generation, this could have a big effect on future consumption related GHG emissions. Given the urgency of climate change however, where current yearly GHG emissions would lead to us surpassing the lower end of the Paris Agreement goal in less than seven years if remaining constant (MCC, n.d.), much more must be done. We cannot wait for the next generation to solve the problems prior generations have caused.

Acknowledgments

I would like to extend my gratitude to my supervisor Roger Hildingsson at Lund University for his flexibility in supervision and assistance in the construction of this thesis. I am also thankful for my girlfriend Tamy and our dog Louie for them always being there throughout this past semester.

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Appendix 1

Malmö municipality – documents and websites for analysis	
Förslag till Miljöprogram för Malmö Stad 2021-2030	Document
Handlingsplan för miljöprogrammet – förslag till prioriterat arbete i Malmö stad 2019-2020	Document
Policy för hållbar utveckling och mat för Malmö stad	Document
Policy för hållbar utveckling och mat för Malmö Stad – Uppföljning juli 2019 - juni 2020	Document
Trafik- och mobilitetsplan. För ett mer tillgängligt och hållbart Malmö	Document
Policy och norm för mobilitet och parkering i Malmö	Document
Klimatsmart mat. En fullmatad handbok	Document
Första hjälpen för rester. Eller: så gör du vardagen till en restfest!	Document
Klimatanpassningsprojekt. Djupadals strävan mot hållbar och lokal energiproduktion	Document
Klimatanpassningsprojektet. Solen lyser över Seved och Sofielund	Document
https://malmo.se/Sa-arbetar-vi-med.../Klimat-och-miljo/Klimat--och-miljoprojekt/Food-Malmo---Tillsammans-for-varldens-bastamat-i-Malmo.html	Website
https://malmo.se/Sa-arbetar-vi-med.../Klimat-och-miljo/Klimat--och-miljoprojekt/Food-Wave---Ungas-matvanor-for-miljo-klimat-och-halsa.html	Website
https://malmo.se/Sa-arbetar-vi-med.../Klimat-och-miljo/Klimat--och-miljoprojekt/Klimatneutralt-Malmo-2030.html	Website
https://malmo.se/Sa-arbetar-vi-med.../Klimat-och-miljo/Klimat--och-miljoprojekt/Klimatsmart-mat-i-Malmo.html	Website
https://malmo.se/Sa-arbetar-vi-med.../Klimat-och-miljo/Klimat--och-miljoprojekt/Klimatsmart-mat-i-Malmo/Nu-mater-vi-matsvinnet.html	Website
https://malmo.se/Sa-arbetar-vi-med.../Klimat-och-miljo/Klimat--och-miljoprojekt/Sharing-Cities---Delning-och-samagande-i-Sege-Park.html	Website
https://malmo.se/Sa-arbetar-vi-med.../Klimat-och-miljo/Klimat--och-miljoprojekt/Siptex---Automatiserad-sorteringsanlaggning-for-textilier.html	Website

https://malmo.se/Stadsutveckling/Tema/Resande-och-infrastruktur/Ramavtal-8-Storstad-Malmo.html	Website
https://malmo.se/Stadsutveckling/Tema/Klimat-och-miljo/Hallbart-byggande/Tips-for-dig-som-ar-villaagare/Solenergi-i-mindre-format.html	Website
https://malmo.se/Bo-och-leva/Bygga-och-bo/Solguiden---Information-om-solenergi.html	Website

Göteborg municipality – documents and websites for analysis	
Göteborgs Stads miljö- och klimatprogram 2021-2030	Document
Fossilfritt Göteborg – vad krävs? (compiles and analyzes 30 steering documents in Gothenburg municipality. Suggests actions)	Document
Göteborg 2035. Trafikstrategi för en nära storstad	Document
Riktlinjer för mobilitet och parkering i Göteborgs stad. Hantering av mobilitets- och parkeringsfrågor i detaljplan och bygglov	Document
Cykelprogram för en nära storstad 2015 - 2025	Document
Göteborg utan sopor! 30 sätt att minska ditt avfall	Document
https://goteborg.se/wps/portal/start/gator-vagar-och-torg/cykling-och-cykelvagar?uri=gbglnk%3A%2Fpage.e6772f69-be30-4b7b-bacc-edc26508fe11 + various sublinks	Website
https://goteborg.se/wps/portal/start/kommun-och-politik/kommunens-organisation/forvaltningar/forvaltningar/forvaltningen-for-konsument--och-medborgarservice-/vara-verksamheter/hallbar-konsumtion + various sublinks	Website
https://goteborg.se/wps/portal/enhetsida/Innovation-och-utveckling-far-framtidens-mobilitet-i-Gateborg/electricity?uri=gbglnk%3A20161025104354976	Website

Appendix 2

Interview guide

Start by introducing the thesis and repeat the essential ethical considerations regarding the data.

1. Tell me a bit about yourself and your work role
2. How do you work with sustainable consumption, in general?
3. In which ways do you work with sustainable consumption towards individuals/households?
 - What kind of tools do you have to work with this? (Steering instruments)
4. Within which kind of consumption do you think you have the biggest influence on the citizen/household level?
5. Consumption can be divided into several areas, such as choices regarding transport, electricity, heating, food, things etc. In which consumption categories does the municipality have the biggest possibility to affect the households?
 - Could you give some examples on how you work with this?
6. Which consumption categories do you work the most with?
 - Is there a prioritization here?
7. How do you work with the households' consumption in areas where you don't have any direct power? For example, consumption of food and things.
8. Are there indirect ways where you can affect the citizens consumption? (Where you can create conditions)
9. How does the strategy look forward, to engage your citizens in a more sustainable consumption? (Context: Municipal climate goals)
 - How does the political leadership prioritize these questions in the municipality?
 - What possibilities do you have to work efficiently with these questions? (Budget etc.).

10. Which are the greatest challenges in the municipalities work with sustainable consumption on the household level?

11. What possibilities do you think you have to reach your environment and climate goals?

Finish by asking if the respondent has any further questions regarding the process or if there are further topics the respondent wishes to elaborate on.



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Lunds universitet

Miljövetenskaplig utbildning
Centrum för miljö- och
klimatforskning
Ekologihuset
223 62 Lund