Circular Economy in Sweden: a critical discourse analysis of the Swedish government's strategy to transition

Author: Marcus Aronsson

Abstract

The concept of a circular economy (CE) has gained traction in the EU as a pathway towards sustainability. However, beyond the goal of closing resource loops there is no consensus on the key components of CE. Efforts to triangulate a definition of CE found that it is mainly a model for economic prosperity that aims to reconcile economic growth with sustainability. In 2020, the Swedish government adopted a new strategy to transition to a CE. This thesis examines the document detailing the strategy through employing a critical discourse analysis conceptual framework and the '*What's the problem represented to be?*' method for policy analysis. By integrating these two frameworks the goal is to uncover power-relations and ideologies hidden in the problem representation constructed in the document. In addition, two theoretical perspectives from environmental sociology are utilized to discuss the findings of the analysis: the treadmill of production (ToP) and ecological modernization theory (EMT). The analysis concludes that the problem representation is dominated by a depoliticized technical framing that relies on oversimplistic solutions while ignoring complex factors, e.g. rebound effects. Moreover, the social dimension – e. g. consumer culture and differing levels of consumption – is mostly left unproblematized. Thus, the strategy document constructs a problem representation that fails to challenge the unsustainable social practices of the status quo. Lastly, it is argued that the transition strategy is highly compatible with the emphasis on modernization of EMT, while ToP warns us to be critical of any problem representation put forth by treadmill elites.

Keywords: circular economy, sustainable development, critical discourse analysis, policy analysis, treadmill of production, ecological modernization theory

Contents

Abbreviations

CDA – Critical Discourse Analysis

CE – Circular Economy

CHANS – Coupled Human-Natural Systems/Sustainability Science

EKC – Ecological Kuznets Curve

EMT – Ecological Modernization Theory

EU – European Union

GHG – Greenhouse Gases

IPCC – Intergovernmental Panel on Climate Change

SD – Sustainable Development

SDGs – The Sustainable Development Goals

ToP – Treadmill of Production

WPR – What's the problem represented to be?

1. Introduction

The herculean effort behind the collective effort that constitutes the Intergovernmental Panel on Climate Change (IPCC) is, in a sense, a testament to human ingenuity. The poetic tragedy, however, lies in the subject where their efforts are exerted. According to the IPCC (IPCC, 2014), we are on the path to an increase in surface temperature of between 3.7 °C and 4.5 °C by 2100 without further mitigation before the year 2030. An increase in temperature of this magnitude has immense negative implications for e.g., species extinction rates, extreme weather events, and food security. A warming climate is caused by emissions of greenhouse gases (GHG), which are in turn caused by human activity – hence the label *anthropogenic* climate change. The IPCC (ibid) findings show that the emissions of GHG have increased since the industrial revolution, with the greatest increase happening in the time period 2000-2010, despite climate change mitigation policy.

The concept of a Circular Economy (CE) has been gaining momentum in the European Union (EU) as a pathway to ameliorate climate change and other forms of environmental degradation. The current iteration of CE was developed and introduced by policymakers and members of the business community with the explicit goal of reaching sustainability and over the past few years, the concept has increased in popularity in bureaucratic circles, particularly in the EU (Korhonen, Honkasalo & Seppälä, 2017; Prieto-Sandoval, Jaca & Ormazabal, 2018). As Merli, Preziosi & Acampora (2017) describes it: "This paradigm shift is considered as a reference point to harmonize economic growth, environmental issues and resource scarcity." To summarize, CE is based on eliminating waste by redesigning products to have no end-of-life. Rather, products should be adaptable, repairable, and optimized for disassembly and reuse. Therefore, decoupling emissions from resource use is achieved through circulating resources longer in the economy. This is opposed to what is called a linear economy, where new natural resources are constantly injected, and waste is created when the products made by these resources are disposed of. Thus, CE is a reimagining of the economy from the take-make-dispose dynamic – that has been the dominant mode since the industrial revolution – into a circular flow mimicking the circular flows of nature. (Ellen MacArthur Foundation 2013a; Ellen MacArthur Foundation 2013b; Ellen MacArthur Foundation 2014).

In 2020 Sweden adopted a new strategy for transitioning to a CE. This strategy is the object of inquiry for this thesis project. Through critically analyzing the strategy – and suggested solutions and policy interventions – with a focus on discourse and problematization, insight

can be gleaned on how the problem of climate change and environmental degradation is being constructed by the Swedish government, and what is left unproblematized.

1.1 Research Aims

Climate change is a global issue of utmost importance. The goal of this research project is to examine how the environmental problems facing the globe today are being represented in Swedish official documents covering the transition to a CE. To do this, a critical discourse analysis (CDA) conceptual framework will be employed in combination with the WPR method designed for policy analysis. In examining discourse, the goal is to unearth hidden power dynamics and ideologies in a mode of meaning-making. For the environmental debate, this means uncovering practices and obstacles to environmental sustainability through analyzing normalized assumptions. An additional research aim is to add to the theoretical debate in environmental sociology. This is achieved by discussing the findings of the analysis through the perspectives of the selected theories. In addition, the analysis is strengthened by grounding the findings in the wider social science field. The research questions which this thesis seeks to answer are:

- Using a critical discourse analysis approach, how is the problem of climate change and environmental degradation represented in Swedish official government strategy on the transition to a Circular Economy?

    - How are these findings compatible with the treadmill of production theory and the ecological modernization theory from the field of environmental sociology?

According to van Dijk (2001, p. 97), accessibility is a requirement for any CDA project. Therefore, an expressed goal of this research project is to keep the text exoteric and thus eligible for a wider audience.

1.2 Delimitations

One delimitation of this project is the site of research, which is the Swedish government. This site was chosen for two main reasons, with an emphasis on the first of these. First, relevance for the concept of CE – seeing as Sweden recently adopted a new transition strategy for the implementation of CE. In addition, Sweden prides itself on being an environmental leader, making Sweden fertile ground for discourse research on the subject of environmental issues.

Secondly, reflexivity and the role of the researcher. Being a Swedish citizen living in Sweden, this site of research is close to the researcher granting an understanding of the contextual nuances of the site. Additionally, while not wholesale ruling out analyzing and critiquing other governments or contexts – which is a valuable and legitimate undertaking – it seems appropriate to focus on one's own when such an inquiry is possible.

Another delimitation is the selection of the two theories from environmental sociology delimits the theoretical dimension of the thesis. These two theories are perceived to represent a dichotomy in how the environmental-societal relationship is understood and what is needed to limit environmental degradation. Hence, while the final discussion is delimited to developments within these two theories alternative theories could shed light on other dimensions of the area of research.

1.3 Definitions

Climate change – This is referred to as anthropogenic climate change, i.e. caused by human activity, as laid out in the introduction.

Consumption – Unless otherwise stated, this refers to private consumption made by households.

Environmental degradation – This is a broader term than climate change which also incorporates localized environmental issues, e.g. pollution of rivers. The reason for sometimes using the term climate change and on other occasions environmental degradation is that climate change is a unifying global issue that is also quantifiable, making it a tangible focus for the thesis project. However, environmental degradation is necessarily used for the reason that the concept of CE, as well as the theories within environmental sociology are not limited to climate change. Thus, so as to not misrepresent these the wider term of environmental degradation is used when suitable.

Sustainable Development – Can refer to three things in this thesis project. First, the ideal goals of SD as they are envisioned and defined by the Brundtland Commission (WCED, 1987) as: "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Secondly, the SD paradigm understood as a model for 'green growth' and embodied to some extent by the SDGs. Hence, when referring

to this definition it will be made clear in the text. Thirdly, as a contested discourse which will be clarified as: 'sustainable development'.

1.4 Outline

This document comprises 7 chapters (including this one), and the structure of this document is as follows. Following this introductory chapter is the chapter on background in which the social science context of this thesis project is described as well as a brief background of CE is laid out. The chapter after that discusses previous literature relevant for this thesis project. This is followed by a chapter detailing the conceptual framework of CDA that has guided this research project, as well as an overview of theories from environmental sociology that was used. The chapter on method and data details the selection of the analyzed text and how the WPR approach was used to answer the research questions. Following this is the chapter on analysis. Closing is the chapter of conclusions and end discussion in which recommendations for future research will also be given.

2. Background

This chapter is divided into three sections. The first covers the role of social science in researching climate change. This section serves the purpose of situating the research project in a wider context making it a point of reflexivity about where the project fits. The second section briefly describes Sweden's current climate change impact, as well as how impact and mitigation are not equal across society. Lastly, the third section covers the background of the transition to CE in the EU and how it is related to the SD paradigm, emphasizing the continuum of 'green growth' trends.

2.1 Social Sciences and Anthropogenic Climate Change

The IPCC (2014) underlines that two interrelated human factors are the drivers of increased emissions of GHG, (1) population growth, and (2) economic activity. Thus, the *cause* of global warming is an increase in GHG in the atmosphere; however, the *drivers* of GHG emissions are based in human activity. Therefore, while the problem could first be construed as a problem for the natural sciences, the social sciences have a big role to play in climate change mitigation. As Brulle & Dunlap (2015, p. 16) put it: "… it is now clear that the well-entrenched divide between the natural sciences and social sciences reflects a nonexistent world, and maintaining this division is untenable if we are to understand contemporary problems like climate change." For example, as Rosa et al (2015, pp. 33-35) argues, some of the key anthropogenic drivers of climate change are similarly identified by natural scientists and sociologists. Moreover, sociology as a discipline, in general, does not limit itself to analyzing one dimension of social reality, for example economic activity. Thus, as a field, it is well situated to incorporate different factors in understanding the drivers behind the human behavior that make up the complexity of climate change.

According to Brulle & Dunlap (2015, pp. 4-15), there are three main trends in social science research of climate change. First, Coupled Human-Natural Systems/Sustainability Science (CHANS) grew out of the effort to integrate the social sciences into global natural science research on climate change. In this approach environmental and human systems are considered separate, and the main body of research regarding the impact of human activity are on natural systems. The main criticism of this approach is that research is still formulated using natural science perspectives only allowing influence from the social sciences when it is deemed to contribute to a multidisciplinary effort. Another criticism is that it relies heavily on

systems theory, a contested approach within social science and a limiting factor of CHANS in general. Secondly, the predominance of individual-level analysis, especially within the fields of economy and psychology. These approaches focus on the role individuals play in climate change and, in extension, in mitigating climate change, often through economic incentives or disincentives. Critique of individual-level analysis stems from the lack of adherence given to institutions, and structures, with an emphasis that the drivers of climate change cannot be solved on an individual level. Thirdly, a strand of post-political critique that criticizes social science research using the framing that is dominant in the natural sciences. Proponents of this approach argue that this depoliticizes the issue and scientizes it. Furthermore, that by accepting the depoliticized framing the status quo is protected through removing socioeconomic conditions from the climate change debate.

This research project relies heavily on perspectives found in environmental sociology. Within sociology, structural and institutional criticism has been and continues to be an important characteristic for the field that gives it an important edge in the analysis of anthropogenic drivers (Brulle & Dunlap, 2015, pp. 15-16). However, there is a divide between what could be called critical environmental sociology and other variations of environmental sociology perspectives that are more compatible with reigning structures (Rosa et al, 2015, pp. 28-41) (more on these in section 4.2 and 4.2.1-4.2.3).

2.2 Consumption and Anthropogenic Climate Change: The Case of Sweden

A country's contribution to GHG emissions can be measured in two main ways, (1) through an aggregate of the emissions from *production* in the country (called territorial emissions), or (2) through an aggregate of emissions from *consumption* within the country (OECD, 2016). While the former measurement has its uses, for example considering production policy, the latter is arguably the more useful of these measures considering the global scope of the problem. This is because consumption is best understood as a globalized activity. Taking Sweden for example, we can see that while both emissions based on production and emissions based on consumption have decreased in the time period 1990-2019 (Our World in Data, 2019), the former has decreased to a higher degree. Moreover, emissions per GDP and emissions per capita have also decreased in the same time period (). This tentatively implies that relative decoupling has occurred to some degree regarding the relationship between emissions and growth in Sweden. However, in the same time period global emissions have continued to rise sharply.

While emissions in Sweden are declining, they are starting from a high point. Sweden was responsible for 2.1 billion metric tons of CO_2 emissions in the time period of 1990-2015, based on a measure of consumption. This parallels the emissions of the poorest half of the population of the continent Africa, 432 million people (Oxfam, 2020). While somewhat simplified, the global emission budget can be approached as a zero-sum affair. Granted that we want to mitigate global warming to a certain degree, we can emit a certain amount of GHG if we are to stay below the target. Thus, the emissions one country or one individual cause gets deducted from a global emissions budget. Emissions and mitigation within the country are also highly unequal. In the same time period, the richest 10% of Swedes accounted for 24% of emissions, while the bottom 50% were responsible for 32% of emissions. Similarly unequal was the mitigation of consumption-based emissions. Sweden reduced emissions by 11% in 1990-2015. However, 10 out of 11 percentage units of mitigation came out of the bottom 90% of income earners, while the top 1% *increased* emissions (ibid).

2.3 Sustainable Development and the Shift to a Circular Economy

The concept of 'sustainable development', can arguably be ascribed to have hegemonic status. Not only with development actors but as a global narrative of progress (Dryzek, 2013, pp. 153-155). The 17 Sustainable Development Goals (SDGs) have offered a framework for the SD paradigm since their formulation in 2015. They deal with a wide range of subjects related to human and economic development, and as such could be construed as having a holistic perspective of development (United Nations, 2015). While the SDGs are most likely the closest thing to an effective mainstream definition of what SD could look like, they do not explain the concept exhaustively. As such, there is much confusion as to how one *achieves* the ideal vision of SD.

The discourse of 'sustainable development' has its roots in the global south. It was originally a discourse that stood opposed to the development dogma of development as synonymous with economic growth. In some circles, 'sustainable development' meant an explicit end to growth, at least in the global North. In the contemporary interpretation, however, growth as measured by GDP, is mainstreamed as a key indicator for progress (see for example SDG 8) (Dryzek, 2013, pp. 147-155). Worthy of note, however, is that the hegemonic status of GDP is becoming more challenged (see for example Stiglitz, Sen & Fitoussi, 2010). The point of this paragraph is to emphasize that 'sustainable development' is a contested discourse, even

though the 'green growth' narrative certainly holds more power at this point, as measured by GDP or not. It is important to acknowledge, however, that what reproduces and strengthens environmental discourses is not limited to findings in the natural and the social sciences, and that power is an important factor in discursive practices.

In 2015 the EU adopted an action plan for the implementation of CE stating that: "This action plan will be instrumental in reaching the Sustainable Development Goals (SDGs) by 2030 …" (European Commission, 2015). Among other things, this illustrates the relationship of the CE model with the SD paradigm, as it is understood through the SDGs. Most importantly, this shows that both the SD paradigm and CE are compatible 'green growth' narratives – as the increasingly popular idea of CE is often referred to as an approach that can lead to sustainability (Merli, Preziosi & Acampora, 2017). The purpose of the discussion of SD and the SD paradigm as it relates to CE models is to paint a picture of the global context in which this research project is situated. Moreover, this illustrates the hegemony of the SD paradigm, and how this influence is expressed in the global North.

3. Literature Review

The literature review for this research project was focused on three interrelated areas. First, the concept of CE as a whole, which includes, but is not limited to, efforts to define CE, criticism of CE, and barriers to successfully implementing CE. Secondly, CE and the broader term of circularity as it has been perceived in Sweden. Thirdly, waste management – a key part of CE implementation – that reviews mainly research efforts of the Swedish experience. The main takeaway from this chapter is that CE is a diffused concept that lacks a clear definition, but shows tentative promise in reaching the goals of SD. In addition, most CE definitions and efforts to implement a waste management model based on CE repeatedly fail to challenge the consumption-based elements of the linear economy.

3.1 The Circular Economy: Definition and Problematization

The CE approach to sustainability and 'green growth' has gained momentum in the EU over the past few years. CE was introduced by policymakers and business leaders, leaving academia scrambling to catch up. While the general notion of circularity of resources is generalized in all of CE, there is no real consensus as to what CE is. Scholars have made attempts to zone in on a more concrete understanding of CE. For example, Merli, Preziosa & Acampora (2017) analyzed more than 500 peer-reviewed articles and concluded that CE operated more as an umbrella term because of its poorly defined condition. Another attempt to triangulate CE was made by Kirchherr, Reike & Hekkert (2017) who analyzed 114 definitions of CE from peer-reviewed articles, and other sources such as the reports of the (oft-cited in CE circles) Ellen MacArthur Foundation. Kirchherr, Reike & Hekkert (2017) emphasize the importance of highlighting non-academic sources in any effort to establish a definition of CE since most of the conceptual work on CE is produced outside of academia. For this research project, however, this is referred to by the work carried out in previous efforts.

While CE is not a homogenous approach, some trends in CE perspectives have been identified by the two research groups mentioned above and others. Following is a brief summation of the relevant findings of how CE is perceived and defined, beyond the description in the introduction. For starters, CE is perceived as a pathway to the 'green growth' variety of SD. As such, it is expected to promote economic growth while being environmentally sustainable (Grdic, Nizic & Rudan, 2020; Kalmykova, Sadagopan & Rosado, 2018; Kirchherr, Reike & Hekkert, 2017; Merli, Preziosi & Acampora, 2017). As stated by Kirchherr, Reike & Hekkert

(2017) concerning their findings: "The main aim of the circular economy is considered to be economic prosperity, followed by environmental quality; its impact on social equity and future generations is barely mentioned." As such, it fails to meet the standards set for SD. This quote also points to an issue related to the economic focus of CE; that the perspective largely lacks the inclusion of a social dimension (Kirchherr, Reike & Hekkert, 2017; Merli, Preziosi & Acampora, 2017; Murray, Skene & Haynes, 2017). Lastly for this disposition, another finding is that some combination of the 3Rs of reduce, reuse, recycle are included in CE definitions with an emphasis on recycle, and reduce being often neglected or downplayed on the assumption that it will negatively affect economic growth (Kirchherr, Reike & Hekkert, 2017) (see section 3.2.1 for a discussion on how reduce has been neglected in waste hierarchy implementation).

In an attempt to ground CE on a scientific foundation, Korhonen, Honkasalo & Seppälä (2017) developed a model highlighting key requirements for CE to engender SD. For starters, the development of a new consumer culture of sharing rather than individual consumption is key for CE – only addressing production efficiency will not solve this as gains in efficiency in one locale might be eaten up elsewhere if consumer culture remains unchanged. Murray, Skene & Haynes (2017) mirror this perspective in that the focus on the technical aspects of manufacturing is misplaced if norms of consumption are not also addressed. This is supported by studies examining barriers to CE, of which the biggest barriers could be categorized as social – e.g., consumer culture, hesitant businesses, the problem of transcending a linear mindset in society (Hartley, van Santen & Kirchherr, 2020; Kirchherr et al, 2018). Another key factor is that of technology and thermodynamics. The law of entropy makes clear that perfect recovery of materials is not possible (Gregson et al, 2015; Korhonen, Honkasalo & Seppälä, 2017). This is one of the technological barriers that Murray, Skene & Haynes (2017) refer to when critiquing CE for oversimplistic solutions, unintended consequences, and an exaggerated belief in technology to save the day. Gregson et al (2015) also criticize the idea of perfect recovery, calling it a "technocratic dream".

There is a great deal of confusion of the definition and practical implications of CE, as well as some fundamental weaknesses to the general assumptions of how CE would work in practice. However, academic response to the gaining momentum of the concept of CE has still been fairly positive. While there are glaring problems with CE, it is still perceived as a step in the right direction and lauded for the fact that it has been able to activate the business community

(Korhonen, Honkasalo & Seppälä, 2017; Merli, Preziosi & Acampora, 2017; Prieto-Sandoval, Jaca & Ormazabal, 2018).

3.2 The Circular Economy in Sweden

Previous research efforts on CE in Sweden can be categorized in three ways. First, the conceptual, which pertains to CE as a whole, how it is perceived etc. Secondly, as research in waste management, which is an important part of CE, as well as being a measurable effort of the public sector to enact CE. Thirdly, CE as it is being utilized or implemented in localities, such as firms. The first of these will be covered in this section, and the second in the following one. This study is delimited to the first two of these categories since the third does not pertain to the level of analysis for this research project, or the object of research. The argument for the inclusion of the former two categories and the review of CE in the first section of this chapter is that they are crucial for the contextual and historical site of the object of research.

Johansson & Henriksson (2020) conducted a discourse analysis on the concept of circularity and how it has evolved in a Swedish context. By analyzing documents from the 1990s and the 2010s they found that circularity can be divided into strong and weak circularity. Whereas strong circularity incorporates the social dimension to a larger extent, addressing power-relations. A weak circularity, which is the common version found in current CE suggestions, is characterized as circularity left to the market. Ultimately, Johansson & Henriksson argue that strong circularity is the preferred outcome and that the version of circularity promoted now by consultants should be problematized.

Niskanen, Anshelm & McLaren (2020) analyzed Swedish media publications on the topic of CE. They found that the concept of CE was ambiguous in what it meant exactly. Leading to multiple actors invoking and convening around CE whilst they may have different understandings and motives. Niskanen, Anshelm & McLaren also suggest that it is likely to be the latest adaption of Sweden's ecological modernization streak, "which in Sweden has consistently acted to depoliticize national environmental policy, and obscure any contradictions between Sweden's role as a major exporter of natural resources (particularly iron, copper and forest products) and its self-image as an environmental leader." Lastly, Niskanen, Anshelm & McLaren conclude that CE is potentially a means for resilient capital to avoid systemic transformation.

3.2.1 Waste Prevention and the Waste Hierarchy

A key tool for the circular economy is the waste hierarchy approach to waste management. The waste hierarchy comprises four steps that are prioritized based on the environmental outcomes: prevention, reuse, recycling, and energy recovery, and at the lowest priority is disposal (European Commission, 2015). Being a member state of the European Union, Sweden has adopted a strategy to transition to a CE. As such, the waste hierarchy model is also present in the Swedish CE agenda (Ministry of the Environment, 2020). Moreover, it is one of the few large-scale practical policy implementations that stem from the goal to transition. As such, it is a topic that is fairly well researched and a thorough examination of this research can lend important insights into the successes, failures, efforts, etc. of the transition strategy.

Since the adoption of the waste hierarchy model in Sweden research has been conducted regarding its implementation and the outcomes that have been shown so far. Moreover, research has been conducted on the theoretical model, mostly when it comes to waste prevention and how it can be interpreted. Underlying much of the research on waste prevention is the notion that within 'green growth' economies waste prevention is contradictory to varying degrees since waste prevention means less consumption. However, consumption is not only a driver of growth but is also deeply culturally embedded. As Bartl (2014) suggests, the many and influential stakeholders in waste generation and waste management are a major obstacle to waste prevention, stressing the contradictory conflicts of interest in the economy. This is reiterated by Hultman & Corvellec (2012), who argue that the waste hierarchy model illustrates the paradoxical relationship between environment and economy. According to Johansson & Corvellec (2018), shifting from waste *management* to waste *prevention* is a "radical" shift in waste management policy. This shift challenges not only the waste generation actors, but also the growing waste management industry (Bartl, 2014; Johansson & Corvellec 2018; Messner, Richards & Johnson, 2020). To summarize and clarify, while the waste hierarchy model may sound promising for climate change mitigation rhetorically, there certainly are major conflicts of interest, and power is an important factor.

In addition, previous research has shown that since the adoption of the waste hierarchy model policies have generally been regarding the lower prioritized goals of reuse and recycling (Johansson & Corvellec, 2018). Moreover, waste prevention measures in, for example, Sweden has been focused on food waste (ibid) even though it only represents less than 1% of

all waste generated in Sweden (NVV, 2018). However, as (Corvellec et al, 2018) argues, waste prevention must be approached as a wholesale readjustment of how we consume and produce in society. Lastly, suggestions from previous research include removing waste prevention from the agenda of waste management actors for two main reasons. First, waste management actors lack the influence to have such an impact on society that is required for waste prevention (van Ewijk, 2016). Secondly, the radical shift that a focus on waste prevention entails is diminished by placing it within traditional waste management (Johansson & Corvellec, 2018; Lilja, 2008). This results in waste prevention measures that are either watered down or in some cases measures that belong to, for example, the reuse category is labeled as prevention (Johansson & Corvellec, 2018).

4. Theoretical Framework

This research project combines two approaches of discourse analysis to address the research aims. First, CDA which is what Fairclough (2001, p. 121) calls more of a theoretical perspective than a method, which it is often mistaken for. In addition, CDA is not a unified framework, rather there are several different ways of doing CDA (Meyer, 2001, pp. 15-23). Secondly, an approach for critical social policy analysis developed by Bacchi (2009) called '*What's the Problem Represented to be?'* (WPR). The function of combining these two approaches is to use a theoretical framework that draws mainly from CDA with a method based on WPR (for an example of how these approaches have been combined before see Chan, 2018).

One of the main differences between CDA and WPR is how the respective perspectives view discourse and discourse's role in social situations (Bacchi, 2018). WPR adopts a fundamentally Foucauldian perspective of discourse, discourse is knowledge and knowledge is discourse, emphasizing the role discourse has in social life (Bacchi, 2009, pp. 35-37; Bacchi, 2018). CDA acknowledges this understanding of discourse but incorporates another understanding as well; discourse as social practice itself, not only as representing social practice in the form of knowledge (Wodak, 2001a, p. 9) (see below for a more elaborate discussion on discourse). One of the key implications of this is that context has a fundamentally bigger role to play using a CDA understanding of discourse. Arguably this distinction stems from the different ontological and epistemological understandings of the two approaches. In short, the version of CDA that is mostly drawn upon for this research perspective is a critical realist approach (Fairclough, 2010, pp. 4-5), whereas WPR is a poststructuralist approach (Bacchi, 2009, p. 34). As these underlying philosophical distinctions do not affect this research project other than how they have affected the operations of the approaches they will not be discussed in detail further.

CDA is an approach without a set methodology, rather different methods of analysis of meaning-making are repurposed to fit within a CDA framework (Machin & Mayr, 2012, pp. 4-5). By combining a CDA informed conceptual toolset with the WPR method of examining problem representations, the goal is to produce an in-depth analysis of the discourse of CE as it is being represented in the selected text.

The first four sections and subsections of this chapter regard the conceptual framework based in CDA, and the following three discuss the two theories from environmental sociology that are used to discuss the findings from the analysis.

4.1 Constructing the Conceptual Toolset

The different variations of CDA have theoretical differences that range from subtle to fundamental for that particular version. In the subsequent subsections, the concepts utilized for this research project will be laid out and discussed.

4.1.1 Discourse

Discourse is a concept that is often used but rarely precisely defined. It is regularly used to describe the trends of conversation within a specific social field, for example within SD. Usually, this understanding of discourse is sufficient. However, when conducting discourse analysis, the devil is in the details. Wodak (2001a, p. 9) emphasizes two non-exclusionary understandings of discourse (1) as a social practice, and (2) as a form of knowledge, representing social practice. Fairclough (2010, pp. 3-6) argues that discourse is hard to define as an object in and of itself separate from relations, rather its function in social relations is meaning-making, emphasizing the importance of other social events, or 'objects', that are not discourse. The social practice of 'doing' discourse, e.g., text, speech, article, etc., has a dialectical relationship with these 'objects' or social fields in which they are embedded (Wodak, 2001b, p. 66). Fairclough (2010, p. 4, p. 166) calls this relationship discrete but not separate. Using the example of state power Fairclough (2010, p. 4) explains that while the state has discursive power, it also has power in the form of a monopoly on violence. Thus, power is not reducible to discourse "Yet power is partly discourse, and discourse is partly power – they are different but not discrete …". Wodak (2001b, p. 66) clarifies it as such: "On the one hand, the situational, institutional and social settings shape and affect discourses, and on the other, discourses influence discursive as well as non-discursive social and political processes and actions." In addition, discourses are not closed systems or monolithic, meaning that discourses can be infiltrated by other discourses, in some cases creating new fields (Wodak, 2001b, pp. 66-69).

This detailed understanding of discourse is both rich and complex. Thus, it is a struggle to present a discussion on the concept that is adequate and true to the concept, while keeping with the exoteric goals of this research project. To sum and clarify, discourse is affecting and

is affected by other discourses, and social fields. The discourse of 'sustainable development' can be used as a broad example that is relevant to this paper. Before becoming a mainstream concept, 'sustainable development' evolved as a criticism of the economic focus of the development industry. However, through interaction with other discourses and fields 'sustainable development' eventually became the hegemonic version of SD embodied by the SDGs that we have today, transforming the discourse and eventually creating the new social field of SD.

4.1.2 Ideology, Power, Naturalization, and Depoliticization

Power and ideology are key concepts in CDA (Wodak, 2001a, p. 3). In the perspective of CDA, one key influence of power and ideology is to make hegemonic ideological conventions commonsensical, or 'taken for granted' and legitimized (Fairclough, 2010, p. 129; Wodak, 2001a, pp. 2-3). As Wodak (2001a, p. 4) put it: "… dominant structures stabilize conventions and naturalize them, that is, the effects of power and ideology in the production of meaning are obscured and acquire stable and natural forms: they are taken as 'given'." In other words, central to CDA is the perspective that power, injustices, inequalities, and ideologies are produced and reproduced through discourse. CDA is concerned with exposing these trends or dispositions that are often hidden in texts through naturalization (Machin & Mayr, 2012, pp. 4-5; Wodak, 2001a, p. 10). A means to uncover these ideological naturalizations is to examine discursive explanations. As Fairclough (2010, pp. 8-9) argues, an explanation can be said to be ideological if it is not only inadequate in its explanation, but it is also necessary to maintain social order. Take the divine right of kings for example. This discursive explanation was used to legitimize the rule of medieval kings. In applying Fairclough's formula to this social practice, or discourse, not only is it inadequate in explaining why one should rule over another, but it is also necessary for the social order and hence ideological in the sense that the explanation is in the service of the powers that be.

Depoliticization is a term that has similarities to naturalization, or perhaps it is more correct to argue that naturalization is an element of depoliticization. However, whereas naturalization has more diverse areas of relevance and can be employed in the analysis of any text, depoliticization is more niche in that it regards a process in the political sphere. More precisely, depoliticization is the process of moving an issue into the post-political frame where the issue becomes technologized, technocratic, and where potential solutions are limited within a specific socio-economic frame. This is a dominant trend within climate

change policy that rarely challenges the status quo (Brulle & Dunlap, 2015, pp. 12-14; Swyngedouw 2010). As Swyngedouw (2010) argues: "… the target of concern can be managed through a consensual dialogical politics whereby demands become depoliticized and politics naturalized within a given socio-ecological order for which there is ostensibly no real alternative." Thus, depoliticization and naturalization are related interactively. To put it simply, naturalization is part of the process of the depoliticization of a problem representation or policy as institutional and systemic dispositions become taken for granted or naturalized.

4.1.3 History and Context

Another important element of CDA is context seeing as discourse is historically constructed. The incorporation of the concepts discussed in the previous sections, as well as other concepts in social science, takes discourse analysis out of the field of linguistic analysis, and into an interdisciplinary space, linking CDA with for example sociology (Meyer, 2001, p. 16; Wodak, 2001a, p. 3). Van Dijk (2001, p. 96) also stresses that CDA should be diverse and multidisciplinary and that it could be combined with any other social science theory or concept. Fairclough (2010, pp. 5-6) goes one step further and calls CDA a transdisciplinary undertaking. The motivation for this label is that the dialectical relationship between discourse and other 'objects' necessarily includes theories and concepts outside of linguistic fields. This emphasizes the purpose of CDA of not only examining a specific text but also to analyze the context of a text.

4.2 Theoretical Models in Environmental Sociology

In adhering to the interdisciplinary obligation of CDA, the findings will be discussed and compared to two influential theoretical models within environmental sociology that aim to explain the societal-environmental relationship: the treadmill of production (ToP), and ecological modernization theory (EMT). While there are other models, aside from being two of the most influential, these models represent two opposing schools of thought in environmental sociology (Rosa et al, 2015, pp. 38-43). First, a radical perspective, represented by the ToP. Secondly, a non-radical perspective, represented by EMT. This is what motivates the secondary research question. Thus, the hope is to add to the ongoing debate in environmental sociology surrounding these perspectives. In addition, fitting the findings into a greater explanation of the societal-environmental relationship enhances the contextual description.

4.2.1 The Treadmill of Production

The ToP was first developed by Allan Schnaiberg in the 1980s as a macro-level theoretical model describing the political economy of contemporary United States, and why environmental degradation had increased at such an alarming rate since World War II (Bell, 2015, pp. 212-213; Gould, Pellow & Schnaiberg, 2008, pp. 7-11). The model is perhaps best categorized as an economic model, as Gould, Pellow & Schnaiberg (2008, p. 11) describes it: "The treadmill of production was thus primarily an economic change theory, but it was one that had direct implications for natural resource extraction as well as for the opportunity structure of workers." According to the ToP, the nature of productive forces in society, in their effort to increase profit, strive towards increasing production and consumption. With every round of investment, capital replaces labor, weakening the position of labor in society. Furthermore, increased production leads to greater extraction of natural resources and higher rates of pollution as environmental degradation is commodified. Maintaining the same level of social welfare requires increasing growth, realized as withdrawals of natural resources and increases in pollution. Thus, to maintain employment, growth is needed, but with growth comes further replacement of labor with capital – hence the name, Treadmill of Production. To sum and clarify, as growth leads to replacement of labor, more growth is needed to maintain social welfare, this results in wide adoption of growth as an imperative for societal goals at all levels of society – growth is thus perceived as the remedy to the negative effects of growth. Increases in growth lead to increases in resource withdrawal and pollution, in turn weakening the ecological stability of communities (Bell, 2015, pp. 212-213; Gould, Pellow & Schnaiberg, 2008, pp. 11-17; Rosa et al, 2015, pp. 38-39).

An element of the ToP that is highly relevant for this research project is its emphasis on the influence of complex power-relations and hegemonic ideology. For example, the focus on production over consumption is motivated on the premise that consumer choice is not devoid of power-relations, and that that the production power ultimately lies in the hands of the treadmill elites (Gould, Pellow & Schnaiberg, 2008, pp. 20-27). According to Gould, Pellow & Schnaiberg (2008, p. 79), the root of the problem lies in the power of elite institutions to construct and define the problem of climate change and environmental degradation. In other words, the problem representation is subject to treadmill logic. However, it is important to note that actors at all levels are not single-minded. Similar to what was discussed in section 4.1.1 on discourses not being homogenous closed systems apply to the ToP perception in how social responses to climate change are explained. Indeed, Gould, Pellow & Schnaiberg (2008,

pp. 15-17) emphasize the potential for contradictory behavior by actors in all social fields as they come into conflict with the treadmill logic.

4.2.2 Ecological Modernization Theory

According to Mol & Spaargaren (2002), ToP and EMT share several fundamental similarities. For example, both models focus on the dynamic relationship between production, consumption, and environmental degradation. In addition, "Both perspectives analyze how social dynamics, actors, institutional arrangements and processes structure in a specific way the additions and withdrawals in production and consumption processes." Another similarity is that both ToP and EMT take a firm stance against perspectives that view environmental issues as problems of strong social construction. The key fundamental difference between the two models can be found in their respective theory of change. Whereas ToP views capitalism as an ultimately unsustainable mode of production, EMT emphasizes the reformist potential of capitalism (ibid).

The main argument of EMT is that as societies proceed to modernize and increase in wealth, consideration for the environment increases and ecological values solidify. This is represented by what is called the Environmental Kuznets Curve (EKC) (Rosa et al, 2015, pp. 39-41). The EKC purports to show that initially as societies begin to modernize, environmental degradation increases, but beyond a certain point the effect of growth on environmental degradation is inverted. In other words, according to the EKC growth has positive environmental outcomes after passing a certain level of modernization (Bell, 2015, pp. 216-218; Rosa et al, 2015, p 40). The increases in society of environmental values are explained operationally as a process of evolving ecological rationality. Meaning that as a society becomes more affluent ecological rationality begins to rival other rationalities, for example, the cost-benefit logic of instrumental rationality (Rosa et al, 2015, pp. 40-41). However, this process of modernization is not expected to automatically engender an environmentally sustainable society; rather, this is perceived by EMT to emphasize the need to focus on pushing small changes and reform over radical system-wide reforms (Mol & Spaargaren, 2002). In addition, technological development is perceived as the tool that enables the offsetting of economic growth from environmental degradation. In other words, more modernization is seen as the solution to the negative environmental effects of modernization (Fisher, 2002).

4.2.3 Juxtaposing the Theories

While there are some similarities between ToP and EMT there are fundamental differences in how the societal-environmental problem is perceived and thus how it should be addressed. As was mentioned previously, they can be distinguished as radical and non-radical. In this distinction, ToP is the radical of the two theories because of the perspective that capitalism in general and the pursuit of endless growth and profit in particular are the fundamental issues that have to be rejected to address environmental degradation. Whereas EMT is non-radical in that it espouses the possibility of reform, which could then categorize it as a model of "green capitalism" (Ewing, 2017).

In the past few decades there has been a debate in environmental sociology between proponents of either of the two dominant theories. The major criticism of ToP from the perspective of EMT is that (1) it has failed to influence any significant change, and (2) that it is not politically realistic, stating that it has "a high 'utopian' character" (Mol & Spaargaren, 2002). The other way around, the major criticism of EMT from the perspective of ToP is that EMT simply does not go far enough in addressing the fundamental drivers of environmental degradation making EMT inadequate, whether feasible or not. Empirically, EMT has seen many successes in case studies examining the behavior of firms. However, there is no support for EMT at a global aggregate of emissions. Moreover, the emphasis on technology leading to increased eco-efficiency has been thoroughly rejected by empirical research (Rosa et al, 2015, pp. 40-41). Yet, EMT has gained in popularity the past few years. Ewing (2017) argues that this is due to the influence of power in social research. In other words, accessibility to grants, policymakers, and research opportunities push researchers to adopt theories that are more in line with institutional values.

5. Method and Data

5.1 Data Selection

Bacchi (2009, p. 20) emphasizes the subjective influence of the researcher as early as in the selection of topic, and in extension the selection of a text as an interpretative exercise. Thus, the selection of a text is part of the analytical process. Moreover, Bacchi (ibid) suggests that a researcher often "will choose policy texts in order to develop a particular argument." While acknowledging this subjective influence on topical selection, the selection of text can be categorized to have been made mainly through generic purposive sampling, based on the definition of this process by Bryman (2016, pp. 412-414). This means that the text was chosen based on its relevance to the research questions, and its perceived ability to answer them. Phillips and Hardy (2002, p. 75) propose that selection of a text or texts can be guided by a string of questions. For the selection of text for this thesis two of the suggested questions in particular informed the process:

1. "What texts are most important in constructing the object of analysis?"
2. "What texts are produced by the most powerful actors, transmitted through the most effective channels, and interpreted by the most recipients?"

The text that was selected for analysis is *Circular economy – Strategy for the transition in Sweden.* The text was published in 2020 by the Ministry of the Environment with the support of the Ministry of Enterprise and Innovation. The strategy in the document was agreed on by the Swedish Government (which comprises the Social Democratic Party and the Green Party) as well as the Center Party and the Liberal Party. This text fits the description of the two questions asked above and is well suited to answer the research questions.

5.2 Method

The research questions were answered using Bacchi's (2009) framework for critical social policy analysis '*What's the problem represented to be?'.* WPR is specifically developed to be used for critical policy analysis, focusing on how a problematization has been constructed, whereas CDA as an approach has much broader intended uses. In discourse analysis, theory and methods are interactive and hard to separate as different entities. Thus, while there was an effort to distinguish between them, they weave into each other to some degree.

According to the methodological framework of WPR, six questions are asked of policy documents (Bacchi, 2009, pp. 2-19). These questions are listed below with descriptions as to what the purpose and function of each separate question is.

- What's the problem represented to be in a specific policy?

The premises behind the WPR approach are that we are governed by problematizations, and that how a problem is constructed influences what the best course of action to ameliorate this problem is. A policy document might include several, sometimes conflicting problem representations (Bacchi, 2009, pp. 2-4). Take for example a policy designed to address violence against women. If the policy suggests sharper sentencing the problem is assumed to be that deterrents are not strong enough. On the other hand, if the policy would address the availability of housing, one of the underlying issues could be perceived to be the dependency of women on their abusive partner.

- What presuppositions or assumptions underlie this representation of the problem?

This question is aimed at uncovering what is taken for granted and assumed by a specific problem representation. This can range from deep-seated cultural values to assumptions in modes of governance (Bacchi, 2009, pp. 5-7). Returning to the example used for the previous questions. Addressing violence against women through sharper sentencing would arguably suggest an assumption of an individualistic perspective of the problem compared to a more systemic perspective.

- How has this representation of the problem come about?

This question refers to the contextual and historical background of a problem representation with an emphasis on the pervasive influence of power. In addition, the purpose of this question is to acknowledge that there are conflicting problem representations (Bacchi, 2009, pp. 10-12).

- What is left unproblematic in this problem representation?

This question is key to the critical element of the WPR approach. By examining what is left unproblematized attention is raised about tensions and contradictions within a policy (Bacchi, 2009, pp. 12-14). Moreover, this question can also aid in revealing hidden power-relations and ideologies by highlighting what is unsaid. Coming back again to the previous example of

the policy addressing violence against women through sharper sentencing. Such a policy could, for instance, leave the precariousness of women in dependency situations unproblematized, which could be categorized as a systemic issue.

- What effects are produced by this representation of the problem?

This question regards the material and discursive effects of the problem representation. It addresses what is likely to change and who benefits from this particular representation of the problem. Additionally, a problem representation has discursive effects in promoting a certain discourse while limiting another (Bacchi, 2009, pp. 15-18).

- How/where has this representation of the problem been produced, disseminated and defended?

This question is related to the third question in that it includes contextual and historical dimensions. However, with this question, the purpose is also to address the potential to challenge the problem representation (Bacchi, 2009, p. 19).

5.3 Coding

The questions listed above were systemically asked of the target policy text. Relevant sections, based on the WPR questions, were then coded and categorized in accordance with which question the particular section of text was perceived to address. Moreover, notes were taken of reflections of the researcher throughout the analytical procedure; in particular regarding the questions pertaining to the unproblematized or unsaid as this question pertains to what is *not* in the text.

5.4 Identified Weaknesses and Limitations

Common criticisms of CDA regard the validity and reliability of the framework. How can a researcher know that their analysis is an analysis of what they mean it to be? The main reason for this criticism is the strong interpretative elements of the approach (Machin & Mayr 2012, pp. 209-210). This weakness of CDA is also applicable to this research project. One suggestion to strengthen the validity and reliability of a CDA is to combine it with ethnographic elements. For example, interviews with producers and consumers of a specific text in order to triangulate the findings of the analysis (Machin & Mayr 2012, pp. 216-218).

Unfortunately, due to a number of restraints, this was not possible for this research project, for instance, accessibility and time.

Wodak (2001b, p. 65) posits that limitations in validity and reliability can be ameliorated through triangulation efforts. Two of the suggested means of triangulation are extensive background information and a thorough discussion of the context in which the text was created. This perspective has informed the structure and elements of this research project. Ideally, the triangulation effort would include policies that derive from the document that was selected for analysis, linking policies at lower levels to the national strategy and problematization. However, due to limitations of space and time this detail had to be overlooked by this specific research project.

Lastly, in discussing what is unproblematized and unsaid the interpretative subjectivity of the researcher becomes especially prevalent. In any given text there are a myriad of subjects that are left unsaid. Thus, when arguing that something is unsaid or unproblematized in any given text the researcher is also arguing that this *should* be included or problematized. There is a risk that what is argued to be unsaid is left out of a text could arguably be considered to be outside of the scope of the text – a consideration that could well be problematized as well. Therefore, it is important for a researcher to be reflexive regarding the nature and purpose of a text. The argument for problematizing what is unproblematized is one that has to be made by the researcher.

5.5 Reflexivity

Reflexivity is a key component of both CDA and WPR due to the interpretative elements of the approaches. According to Fairclough (2009, pp. 8-9) when 'doing' a critical analysis of discourse another discourse is enacted, that of criticism of the first discourse, and there is no real basis to assume that this critical discourse is better at explaining or interpreting social life than the original. Bacchi (2009, p. 19) mirrors this sentiment by emphasizing the requirement to apply criticism to the problem representation created through the analysis. In other words, in the process of critiquing a problem representation a secondary problem representation is created, and it is imperative of the method to be self-critical of the secondary problem representation. Therefore, a reflexive section will be included in the analysis that problematizes the secondary problem representation.

6. Analysis

The first four sections of this chapter are devoted to the analysis of the text based on the method described in the previous chapter. In the order as follows these sections focus on a general problem representation; actors and stakeholders with an emphasis on what is unproblematized; the context in which the text was produced; the effects of this problem representation. This division somewhat mirrors the questions of the WPR method. However, as the analysis is not so easily restricted to fit within the limits of each separate question this integrated presentation was preferred. The fifth section comprises the discussion of the findings from the perspectives of the ToP and EMT theories from environmental sociology. Lastly, the sixth section is devoted to reflexivity.

6.1 The Initial Problematization

The problem representation is governed by a narrative of an excessive use of resources in Swedish society. Guided by the SDGs, the objective of the transition to a CE is to reduce the environmental impact of this excessive use of resources. As stated in the first chapter of the document: "The transition to a circular economy has great potential to reduce resource use, thereby limiting climate and environmental impacts" (Ministry of the Environment, 2020, p. 6). Thus, the problem is, at least partly, being represented to be material and technical. One of the key factors in the transition to a circular economy is waste and the problematization of resource use is further revealed when waste is discussed: "It will demand considerable effort across the whole value chain and by all actors, including households, to decouple waste generation from economic growth" (Ministry of the Environment, 2020, p. 14). This is illuminating not only in problem representation but also in what assumptions and presuppositions are present in the document. Economic growth is referred to as a naturalized societal goal that is not problematized in a nuanced way. Thus, the problem can logically be formulated as, (1) resource use is too high, (2) resource use is a fundamental driver of economic growth, (3) given that climate goals must be met since economic growth is essential it must be decoupled from resource use.

Decoupling is a contested issue. Importantly for this research project is that decoupling is a concept that seemingly allows for accepting climate science while keeping economic goals and structures intact. Thus, compared to other "solutions" decoupling does not incur much friction. As Bell (2015, p. 211) put it: "The hope – the *only* hope – for the status quo lies in

something called decoupling, which refers to the ability of an economy to grow without corresponding increases in environmental pressure." Bell (2015, p. 212) continues: "There is a small catch. Decoupling is looking more and more like a pipe dream. We cannot even achieve efficiency gains fast enough to offset global CO2 increases in production and consumption." Indeed, empirical support for *necessary levels* of decoupling being achievable *within a relevant time frame* is scarce (Hickel & Kallis, 2020; Keyßer & Lenzen, 2021; Ward et al, 2016). Decoupling is the mediating link that allows for a reality where climate change is being acted on without challenging the status quo. In other words, decoupling becomes a necessary explanatory tool for the social order, and hence ideological.

Another highly featured problem representation is rooted in the current limitations of technology. Thus, a key 'fix' to climate change and other environmental degradation would be an adequate increase in technological innovation. As the transition strategy document explains:

> "The key to an effective circular economy lies in both innovation along the whole of the value chain and successful circular business models in the business sector based on supply and demand, coupled with partnership with other central actors in society." (Ministry of the Environment, 2020, p. 13)

In addition, the document (Ministry of the Environment, 2020, p. 18) states that: "The design of products is crucial to the transition to a circular economy since the choices made in the design phase affect a product's lifespan and whether components and materials can be used again with a high value." And that:

> "Technology that can contribute to lower emissions, the phasing out of substances of very high concern and limited use of hazardous substances should be promoted. Increased exports of climate-smart solutions and technology can also contribute to sustainable development by reducing emissions globally." (Ministry of the Environment, 2020, p. 14)

These excerpts point to an understanding of a representation of the problem as highly technical, requiring technical solutions found in technological innovations and effectivization. While this characteristic of the problem is featured to a much higher degree, necessary behavioral changes are also featured, for example by suggesting an economy with a higher focus on renting and leasing:

> "The quantity of waste is minimised by prolonging the lifespan of products and promoting effective use. New business models in companies involving product rental or leasing can contribute to greater incentives to share, design and manufacture products so that they can be reused, repaired or updated and therefore rented for a longer period." (Ministry of the Environment, 2020, p. 14)

Moreover, digitalization of the economy is another key innovative step, both by replacing products with digital ones and through increasing effectiveness of sharing resources:

> "The possibilities of digitalisation can promote the transition of Swedish companies to a circular economy, in line with the Government's digitalisation strategy. Digital and data-driven innovation creates new technologies and services. They can contribute to the transition by the replacement of products with services or by it becoming easier to reuse or share products and services." (Ministry of the Environment, 2020, p. 13)

The problem of environmental degradation due to excess resources use is in other words mostly an efficiency problem, and therefore solvable by mainly technological fixes. One key issue with trusting new technology and innovation that is left unproblematic in this document is that these are, to some extent, imaginative fixes. In other words, they do not exist yet by definition of requiring innovative efforts. However, while the discourse is very much geared (pun not intended) towards technological fixes, a recurring theme is that climate change adaption must include all actors at all levels of society (Ministry of the Environment, 2020, pp. 29-30). This is emphasized in the foreword that states (Ministry of the Environment, 2020, p. 3): "We create the transition to a circular economy together: the politics, the business sector, the public sector, academia, private individuals and civil society." The direct implication this transition has for private consumption is only discussed in abstract terms of technical cycles and reduced use of virgin materials. Practically, it could mean that for example, individuals should/would/could repair or upgrade their cell phones instead of buying a new one. These types of solutions could be what is referred to in the document when it mentions the innovation of business models. Therefore, it would not be fair to argue that the emphasis on innovation only refers to improvements in technology but that there is a social dimension element present as well.

6.2 Actors and Stakeholders

As was shown earlier, the circular transition strategy considers all actors in society important for achieving the objectives. These are categorized as the political sphere, the business sector, the public sector, and private individuals (Ministry of the Environment, 2020, pp. 29-30). Returning to the problematization it is evident that the issue is considered at a societal scale, leaving no actor untouched, at least to some extent. For example, this excerpt averages emissions across the population:

> "In 2017 greenhouse gas emissions from Swedish consumption totalled nine tonnes per person and year. No later than 2050 global emissions need to decrease to an average of less than one tonne per person. Two-thirds of Swedes' emissions come from households, while investments and public consumption account for the remaining third." (Ministry of the Environment, 2020, p. 11)

Thus, different levels of consumption are left unproblematized. For example, as was brought up in section 2.2, households contribute to and mitigate environmental impacts on different levels which are highly correlated with income. Thus, this aggregation of population emissions leaves some fundamental questions unanswered. Should the households that consume the most, and thus contribute the most to environmental degradation, also be expected to adapt the most? Or does a higher income translate to a higher *right* to spend the carbon budget? Moreover, these questions can be translated to a higher level. Generally, the countries and individuals that spend most of the carbon budget will not be the most negatively impacted by any potential overshoot. While the document discusses the global scope of the issue, as well as Sweden's role in relation to it, the extent to which the failure of Sweden to meet the climate goals will impact vulnerable people in the global South to an unproportionate degree is left unproblematized. In other words, one of the main groups of stakeholders is not mentioned other than as a part of the abstract global scope of the issue.

Looking more concretely at the role of the household and the individual in CE, according to the strategy there is a discernable focus on the free choices of members of society (Ministry of the Environment, 2020, p. 6; p. 9; p. 28; p. 30), emphasizing the need of information that would enable sustainable consumption (Ministry of the Environment, 2020, p. 12) and recycling (Ministry of the Environment, 2020, p. 19; p. 23). One of the explicit goals

(Ministry of the Environment, 2020, p. 21) to achieve sustainable consumption is stated as: "Improving consumer information to make it easier for the individual consumer to make sustainable and circular choices in their everyday lives." The focus on choice and information has further implications for the problem representation. If the solution is to add information about sustainable consumption the problem must be, in part, that information is lacking.

Looking at the points made here through the perspective of depoliticization it can be argued that the unproblematized difference in levels of consumption is taken for granted and naturalized. Moving the issue from the political sphere to the post-political through the process of depoliticization – the differing levels of consumption and the implication for the environment are considered apolitically. Furthermore, the interpretation can be said to be ideological since it is necessary for the social order – challenging the societal-environmental fact of the unequal levels of pollution of individuals would *necessarily* challenge the status quo as well.

6.3 The Context in which this Document was Produced

The strategy document analyzed is very much situated within the Sustainable Development/'green growth' perspective and the SDGs. For instance, it is put forth (Ministry of the Environment, 2020, p. 6) that: "Circular economy contributes to several of the 17 Global Goals for Sustainable Development in the 2030 Agenda. The Agenda's Goals cover all three dimensions of sustainable development: the economic, social and environmental dimensions." Moreover, the strategy document outlines four specific focus areas of the transition strategy. After each of these, it is highlighted which of the SDGs this particular focus area will address (Ministry of the Environment, 2020, p. 19; p. 21; p. 23; p. 25). Thus, it is fair to say that the SDGs are streamlined throughout the transition strategy document and that the SD paradigm and the SDGs have an explicit contextual effect on the discourses in the transition strategy document. Furthermore, implicitly there are more parallels with the SD paradigm. In particular when comparing important elements of the transition strategy document with important features of the SD paradigm. For instance, the repeated references to the importance of technology and innovation (see above) emphasize the role these variables play in the problem representation of this policy document.

The challenge put to the 'mainstream' version of SD as well as the novel pathway to sustainability found in CE is based on it being 'more of the same' – the status quo and

unsustainable practices are not adequately challenged within CE (see sections 3.1-3.3). Related to this earlier criticism of the concept of CE as a model for economic prosperity first and foremost, the strategy document has an explicit and uncritical pro-business thematic element, for example, the opening sentence in the foreword (Ministry of the Environment, p. 3): "A transition of the society is required to achieve environmental and climate objectives, secure our welfare services and the competitiveness of the business sector and to achieve the Sustainable Development Goals." The potential for business opportunities and profit is recurring throughout the document (Ministry of the Environment, 2020, p. 6; p. 11; p. 12; p. 25). Thus, the reader is discursively reassured of the pro-business pro-growth stance of the document.

There are points to be made here about interdiscursivity and the paradox of assuming that decoupling is going to be successful. There is a tangible dialectic between what can be called a collectively focused environmental discourse and neoliberal economic discourse in the document. This is evident through the formulation of the problem as a global problem facing all of humanity collectively, and the inclusive call to action made to all members in all sectors of society. Which is interspersed with an emphasis on neoliberal features and fixes such as e. g. market solutions (innovation, competitiveness), economic growth (opportunities for profit), and the unshakeable right of the individual's free choice to consume and responsibility to recycle (information resulting in consumers making the *right choice*, information making recycling easier). These neoliberal features function as naturalized and depoliticized concepts in the text – as taken for granted fundamentals of society.

6.4 Effects of this Representation of the Problem

The heavy emphasis on technological solutions and innovation serves to depoliticize the issue further. Through overly scientizing the problem, it places it in a post-political frame, highlighting that this is a technical problem requiring technical solutions. This produces discursive limitations on the climate change debate through representing the problem as one of mainly resource-efficiency. In other words, it shrinks the frame for discussing factors causing environmental degradation to that of a post-political one, generally excluding the social dimension beyond the scope of what would be allowed within the post-political frame.

The implication that there is a lack of information for consumers to be able to make the right choices is downplaying the magnitude of the changes needed to meet acceptable mitigation to

climate change and other environmental degradation. Combining the consumer-choice and recycling narrative with the 'green growth' discourse constructs CE as a model that does not imply much structural change. Granted, the document does include the promotion of sharing-models (e.g., carpools) that could potentially replace individual consumption on a few occasions. However, these suggestions are promoted as profitable alternatives (Ministry of the Environment, 2020, p. 21) creating the potential for a rebound effect. Where does the money saved from sharing go? If the savings are converted into other harmful consumption nothing is gained from sharing. This is what was previously referred to as the oversimplistic character of the CE problem representation. Ideally, a CE strategy would include problematizations on these kinds of complex issues; without a plan to handle the potential rebound effect, the environmental goal of CE is at risk of failure. In other words, efficiency improvements stemming from technology and innovation is only one side of the coin, the other is the social dimension, i.e. consumption practices etc.

6.5 Discussion using Perspectives from Environmental Sociology

CE in general is highly compatible with EMT in terms of their respective prescriptions for how to address environmental degradation. Both perspectives rely heavily on technological innovation, or modernization, that would allow us to reign in the environmental impact of society. Moreover, neither perspective fundamentally challenges the structures and institutions that make up our globalized society. Incidentally, this is also argued to be the reason for the popularity of both CE and EMT; the logic of these perspectives allows for addressing environmental degradation without challenging the status quo. In other words, decoupling is an essential ingredient for both CE and EMT to work. These compatibilities between CE and EMT can be extended to the version of CE and the problem representation in the document analyzed here. Thus, Swedish CE and EMT work well in tandem, and EMT research is fully possible within the Swedish CE framework.

For the ToP theory, the Swedish model of CE does not go far enough in addressing the fundamental issues at a global scale. Rather, CE can be viewed as another instance of treadmill elites constructing the issue of environmental degradation in a way that does not challenge the structures that are at the root of the problem, especially considering that CE originated in treadmill elite circles. However, it is arguable that the general idea of CE is not ultimately incompatible with the ToP model for environmental degradation. According to Schwom (2011), ToP and EMT should not be treated as binaries, but more as the opposite

sides on a sliding scale. Meaning that societies place themselves more towards either side depending on current trends in values and power-relations, and across different situations (analogous to some degree with Polanyi's (1944) double movement of commodification and social protection). In addition, Schwom (ibid) contends that they are compatible in the sense that ToP explains power-relations behind production forces in the environment-society relationship, and that EMT can successfully explain moves toward sustainability in lower levels of analysis e.g., firms. Thus, from this point of view, there is potential for academic work in the Swedish CE framework using both ToP and EMT – especially if the social dimension is given more space. For example, the excerpt used in section 6.2 contains seeds of criticism of current structures that could be built on from a ToP perspective.

6.6 Reflexivity – The Representation of the Problem Representation

Discourse analysis is always to some degree an interpretative process. Through criticizing the problem representation in *Circular economy - Strategy for the transition in Sweden* another problem representation is constructed. This section summarizes this secondary problem representation and endeavors to apply self-criticism to it.

The secondary problem representation can be summed up as follows: the problem of environmental degradation is not solvable by technology alone, rather it is a problem stemming from a nexus of social interactions where power and ideology are dominant influences. The implications of this representation of the problem are on the level of systemic structures that we take for granted, such as the freedom to consume what one chooses. This challenges not just the abstract "elites" but deeply ingrained social norms. Thus, the same critique leveled against the ToP can be leveled of this representation of the problem; it is not feasible or realistic and has utopian characteristics. The counter to this argument could be that while it is not realistic politically, it is realistic in the sense that it does not challenge empirical findings the way EMT and relying on decoupling does which could be construed as a 'harder' form of unrealistic. The dichotomy and discussion of these two forms of unrealistic is an important one to have. Certainly, doing something politically realistic is better than putting effort towards utopian change theories that might result in nothing but frustration? This question will have to be left unanswered. However, a saying that fits this discussion is that: 'it is easier to imagine the end of the world than the end of capitalism'.

7. Conclusion and End Discussion

7.1 Conclusion

Three main conclusions can be drawn from the analytical effort of this research project. First, the strategy emphasizes the importance of technology and innovation, potentially applying over-simplified solutions to complex problems due to feedback loops and rebound effects. Secondly, the social dimension in the strategy is mostly but not fully neglected, indicating an interdiscursive conflict in the document. In order for CE to lead to the ideals of SD, the social dimension is a key component. In other words, consumer-culture must be seriously challenged. However, this would also challenge the status quo resulting in a mostly unproblematized and depoliticized approach to consumption in the strategy. Thirdly, comparing the strategy described in the document to dominant theories in environmental sociology found that it is highly compatible with the 'green growth' narrative of EMT. These three characteristics of the strategy are all indicative for the upholding of the status quo within CE. This is further supported by the prevalence of neoliberal discourse throughout the document.

Another feature of CE that references power-relations is the origins of the popularized iteration of the model. ToP argues that the root of the issue of environmental degradation is that treadmill elites have the power to construct and define the issue discursively. As the saying goes, 'if all you have is a hammer everything looks like a nail'; and if our institutions and bureaucracies are dominated by a neoliberal mindset all solutions are market-based and the freedom to consume can never be questioned, even when it infringes on the freedom and quality of life of others. This analogy is a bit crude, but the point is well explained by it. Thus, no malevolent capitalist conspiracy is necessary to explain why stronger action to reign in climate change is lacking – just actors doing what they think is best from within the iron cage, to borrow a term from Weber (Dillon, 2014, p. 131).

7.2 End Discussion

We cannot carry on with business as usual and reign in climate change, it simply does not add up, one of these has to give. This is where technology and decoupling enter the stage – they are the saviors of the current social order. Thus, even though decoupling and relying on the higher power of technology might seem objectively foolish when factoring in the influence of power and ideology, it becomes apparent as the path of least resistance even though it results in some cognitive dissonance and might require some mental gymnastics. There is an element

of lunacy in trying to grow out of issues caused by growth – to dig ourselves out of a hole, so to speak. The faith put on CE to be some kind of fix for climate change, without a corresponding set of adaptions in the social dimension, is arguably not just pseudo-scientific, it is anti-scientific. Similarities can be drawn from what proponents of using more radical theories in social science research of climate change argue is the reason this is not the case. It is simply easier, perhaps even the only possible route forward, to adopt and work with the hegemonic discourses of 'green growth' than to go against the grain. These arguments are inevitably circular to some extent and ultimately impossible to reject. If the lack of interest in the more radical theories and solutions to environmental degradation are written up to be due to their radical nature and not their inability to explain or solve, how can they ever be rejected based on a lack of merit? To aid in this exercise it can be useful to return to Fairclough's method for uncovering when an explanation is ideological. Given that decoupling has such poor empirical support, why is it perceived as a key goal for ameliorating climate change? One explanation could be that decoupling is simply necessary for the social order, hence decoupling's lacking empirical support is made up for by the influence of power. The same argument could be made of the use of certain theories over others when other explanations are lacking. After all, academia is hardly void of ideology and power-relations, even if at the subconscious level, or as merely a nudging factor.

Ultimately, it seems apparent that the 'fix' to anthropomorphic climate change can be found in the social dimension. Contemporary consumer-culture and values are seemingly not compatible with a sustainable society. In order to address this paradox, something must change in what we pursue in terms of satisfaction and status (for a discussion on material and social values behind consumption, see Klintman, 2017). Currently, "winning" society, or attaining social status, is generally related to a higher level of material consumption, which has negative environmental effects. Thus, we are socially encouraged to indirectly cause environmental degradation. Therefore, the decoupling between social status and consumption of material resources is, arguably, the kind of decoupling we should focus on.

7.3 Suggestions for Future Research

As a future research suggestion on the discourse of CE in Sweden discourse analysis methods could be combined with ethnographic methods. This would lead to a more cognitive understanding of how CE is understood by policymakers and consumers of CE policy documents. In addition to strengthening the findings of a discourse analysis, this could potentially lead to a more nuanced analysis of the conflicting discourses within CE. By

employing more diverse methods where discourse analysis would be one part, a future approach could be designed like a case study.

Another future research suggestion is developing the social dimensions of weak and strong circularity as categorized by Johansson & Henriksson (2020) (see section 3.2), and their relationship to CE. This could identify weak circularity pitfalls of CE and aid in the conceptualization of CE based on empiricism and strong circularity. In other words, the concept of CE could be saved from the clutches of 'green growth' advocates and transformed into a model that could realistically put us on a path to the ideals of SD as defined by the Brundtland Commission.

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