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# Perceptions of Urban Transformation

## A Sociological Analysis

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## Abstract

In this qualitative study, the author sheds light on different perspectives, arguments and opinions characterizing the current environmental debate in a large Norwegian municipality. Climate change is one of the greatest challenges of our time. Policymakers view these challenges differently, and this study illuminates the perspectives of relevant local level actors. Document analysis and in-depth interviews are applied in this thesis to address the different factors which influence the work ahead. Through these methods the author creates broader knowledge of how this process is understood in a municipal political context. The findings in this thesis indicate, that the transformation process to a low emission society are characterized by a few main features which are economy, technology, ethics and competition, indicating that future studies should take these perspectives and arguments into consideration.

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> "Mankind has gone very far into an artificial world of his own creation. He has sought to insulate himself, in his cities of steel and concrete, from the realities of earth and water and the growing seed. Intoxicated with a sense of his own power, he seems to be going farther and farther into more experiments for the destruction of himself and his world" (RachelCarson[1])

## 1.0 Introduction

As a child I were a proud member of a national environmental club called Blekkulf and referred to myself as an environmental detective, producing and distributing small notes with the text "use your head, we only have one earth" on the windshield of all the cars in the neighborhood that kept the engine idling. I also have a strong recollection of the way I felt learning about the ozone hole at school, which terrified me to the extent that I would refuse to let my mother use hairspray, due to its aerosol content. The environmental commitment that was taught to me as a young girl have followed me all the way up to adulthood, and still I feel strongly about matters regarding the subject. Although much progress has been made since then, environmental issues is still at the heart of both Norwegian and international societal debate.

Climate change is one of the greatest challenges of our time and the global community is now in a period of reflection where considerations between ecological limitation and economic growth are the core of the matter. International climate agreements are the preferred instruments in solving the issue, the most recent addition being the Paris agreement signed in December 2015. It was formulated during the 21st meeting of the Conference of the Parties to the United Nations Framework Convention on Climate Change and the objective for the agreement is to limit the international greenhouse gas emissions to such an extent that the global average temperature will stabilize at no more than 1.5 °C above pre-industrial level.

[1] [1] Quaratiello, A. R. (2004). *Rachel Carson: a biography*. Greenwood Publishing Group.

To achieve this goal, we need to facilitate a low emission society, reducing our emission drastically. Calculation made by the United Nations Climate Panel, state that if we are going to be able to limit the temperature increase accordingly, it implies that emissions per world citizen must be reduced by 40-70 % by 2050 (Miljødirektoratet, 2014) which calls for radical change in have we facilitated our society.

Now, more than ever before the need for environmental sociology is evident. If we are to successfully create and facilitate environmental, political and social change, there needs to be adequate knowledge of the societal conditions in which it can be facilitated. Environmental Sociology is a relatively new branch in sociology, beginning in the 1980s. It is the result of William Catton and Riley Dunlap's 1979 critic of classical sociology, which, they assert, disconnected people from their environment. They believe that it is a mistake to consider humans as separate from their ecological surroundings and that non-social elements also need to be included in sociology. Environmental sociology focuses on how our biophysical environment shapes our society and is an important contribution in the ongoing climate debate.

The Paris climate agreement highlights the importance of all levels of government (Amundsen et. al. 2017, p.23). And this study aims to create knowledge about the different perspectives that lay the basis for current environmental work at the local level in Norway, to better understand how the transformation to a low-emission society can be facilitated. With this, I hope to find the actors that are central to defining this process. Because their understanding of the issue will guide the climate conversation and, subsequently, the policies that arise from it.

My study object for this thesis will be the municipality of Bodø, an Arctic city located in Northern Norway. The political platform[2] of the five political parties that make up the current position in Bodø municipality states that: "*Bodø will be a driving force in reducing climate emissions and providing more environmentally friendly development.* (my translation) and has the ambition of turning Bodø into an Artic Environmental City. My study will investigate how this transformation process is perceived and this is reflected in the current plans and policies.

[2] http://bodo.kommune.no/getfile.php/Borgerportalen/Bilder/Artikkelbilder/2013/09September/Avtale.pdf

## 1.1 Presentation of The Thesis

This thesis is divided into six parts: 1) Introduction, 2) a presentation of Key Concepts, 3) Theory, 4) Methodology, 5) Analysis and 6) Conclusion. These parts are presented separately but are considerably based on each other.

In the introduction, I have given some insight on my personal starting point for the study, and in the following sections I will describe my study's contribution to the field and give a presentation of my research questions. I will also include relevant information about the TRANSFORM project, provide a historical reflection on environmental sociology and Norwegian environmental policy, and, finally, introduce and describe my study object.

In the theory section, I draw my theoretical contribution from John Dryzek's book, *The Politics of the Earth, Environmental Discourses* (2013). I have chosen this perspective because it provides insight into several different ways of understanding the politics of the environment that I find relevant to my thesis, and it gives us insight on different individual's and groups' understanding of nature, the environment and climate change. My study aims to understand how the process towards a low-emission society is perceived by local level authorities and therefore I find it important to get insight on how key actors understand the problem and what status they give it in the work ahead.

In the methodology section, I describe the different choices I have made in relation to the design of the study; the various steps I have made before, during and after the data collection, which have enabled me to analyse and finally conclude my argument.

In the analysis section of my thesis, I will try to give a broad and representative rendering of the data I have collected to further describe how the transformation process is understood within my case. In addition to interviews, I have done a document study based mainly on the official municipal plan for 2014-2026 and the political platform for the current position, combined with relevant text from media and official online sources. Based on theory and data, I have created four different perspectives on the transformation process that I found during my analysis. By condensing these perspectives, I will present a typology of the three most common arguments displayed by my informants, before I finally conclude.

## 1.2 TRANSFORM Project

In June 2016, the Norwegian government agreed to take steps towards making Norway a carbon-neutral society by 2030. This is in addition to reaching the ambitious goal of limiting

"the temperature increase to 1.5 Celsius above pre-industrial levels" set by the Paris Agreement of December 2015. This calls for a radical and deep level of transformation on both a national and local level. To be able to reach this goal, there needs to be radical and paradigmatic transformation in how we facilitate our society and create policies. Local authorities have been given a formal role in reducing mitigation and adapting to climate change as a part of the Paris Agreement (Amundsen et. al. 2017, p. 23). The need for social science is evident in the work ahead to find possibilities and potential in local authority and policy making. Although the responsibility of creating policies falls largely on the national government, the municipalities also facilitate the transformation process to a large degree and have great potential to be key actors in the process of both initiating and institutionalizing change within their jurisdictions.

My focus in this thesis is on the transformational process from a fossil-fuel economy towards a low-emission society. Within this process, I explore how climate change as a concept is perceived and how this enormous shift, which the global community has agreed to make, is understood and facilitated locally. A municipality can potentially have great influence within its jurisdiction in various issues, including those of the climate. I therefore found it interesting to learn more about how central actors within Bodø Municipality understand climate change, what elements they give importance to, and how they wish to resolve them. When synthesized, these perspectives can potentially form the framework for future climate work within Bodø. Environmental issues like climate change and climate adjustment have, in many respects, become an everyday concept, which may take the sting out of the harsh reality of adaptation. I therefore wish to take a closer look at how climate change and climate adjustment is understood in a local context.

### 1.3 Contribution to The Field

The TRANSFORM project builds on findings from a study called *Short-Travelled Quality. What does transformation to a low-emission society mean for the municipality sector?*[3] *(2016).* This study concluded that municipalities have the potential to facilitate and act as leading agents in the transformation process towards a low-emission society. My study seeks to broaden the discourse on how to facilitate the transformation from a fossil-based economy to a fossil-free economy, with focus on the current perceptions, motivations, policies and plans

[3] Wang, L., Selvig, E., Westskog, H., Mygland, R. and Amundsen, H. (2016) *Short-Travelled Quality. What does transformation to a low-emission society mean for the municipality sector?*[3]

within a large Norwegian municipality, such as Bodø. The climate issue is the biggest challenge of our time (Lidskog and Sundqvist. 2013, p. 5), which requires a restructuring of our economy, society and consumption patterns, and it becomes increasingly clear that radical changes must be made in the way we live (IPCC 2012, in Amundsen et al., 2018 p. 23-24). Although the focus on and the need for societal transformation has become more evident, there still is no singular agreed-upon definition of the term (Ibid p.24). My study will thus be a contribution to this literature. Social science can play an important role in the organization of a low-emission society by identifying relevant elements, such as ideas, values, interests and patterns that may be linked to or hamper transformation.

The study will concentrate on Bodø Municipality, which poses an interesting case as it was ranked No.4[4] out of 428 Norwegian municipalities in the category, "Environment and Resources," in 2017. The municipality is also a relevant setting because of their ambitions to become a zero-emission city as part of the ongoing New City – New Airport Project. My thesis tries to find out how representatives within and in connection to the municipality perceive the transformation process and what motivations they have for the work ahead.

### 1.4 Research Question

To enable the radical societal, political and economic changes necessary to limiting the global temperature increase to 2°C above pre-industrial levels, deep structural changes must be put in place. Social science plays a key role in this process by creating knowledge of how local level authorities perceive and facilitate these changes.

My research questions therefore are as follows:

1) How is the process towards a low-emission society perceived by actors within and in connection to Bodø Municipality?
2) To what extend do the current plans and policies reflect environmental aspects of the transformation process?

I will illuminate these questions by trying to find my informant point of view, capturing their perceptions, values and worldview as its conveyed in our interviews to better understand their

[4] http://einnsyn.bodo.kommune.no/eInnsyn-bodo/RegistryEntry/ShowDocumentFromDmb?registryEntryId=14165&documentId=17575 (07.04.2018)

motivations and perceptions of the transformation process. I will also perform a document study of relevant sources to find out how official policies in this area are formulated and what factors seems to be of importance in the work ahead.

### 1.5 Environmental Sociology

In the 1960s, the planet earth was photographed from space for the very first time, making it possible for us to see our planet as a fragile and beautiful place (Dryzek, 2013, p. 25). It was also during this time that one first began to see the extent of consequences from man-made environmental problems. The book, *The Silent Spring* (1962), by Rachel Carson made big waves when it linked the lack of birdsong to the extensive use of DDT spraying, a chemical popular for killing insects but one that also killed animals such as birds and fish. Carson's book was the start of the contemporary environmental movement in northern America and Europe (Skorstad, 2005 p. 19).

Other incidents which have changed our view on how human activities affect nature are "The Great Smog" in London, which is believed to have cost 12,000 lives in December 1952, when coal burning, fog and traffic pollution created a fatal blend of smog (Gåsdal and Sande. 2009, p. 13-14), and The Love Canal scandal in 1976, when a canal used as a landfill for toxic waste was turned into a housing field, causing toxic chemicals to seep through the ground, making it unlivable for residents. The Love Canal scandal would lay the foundation for the environmental justice movement, which safeguarded the rights of the poor and underprivileged against powerful actors such as industry owners (Ibid.).

Since the 1980s, environmental sociology has been a trajectory for sociology (Mol 2006, Redclift and Woodgate 20110, in Lidskog and Sundqvist 2013, p. 51) with its roots in North American Sociology. William Catton and Riley Dunlap (1979) are viewed as its founders, with their criticism of the classical sociologists such as Max Weber, Emilie Durkheim and Georg Herbert Mead, which Catton and Dunlap believe put people in the center of society without any connection to their biophysical environment (Ibid.). Catton and Dunlap developed the theory of the New Environmental Paradigm (NEP) which, for the first time in sociology, puts man in a larger ecological context where non-social elements are also important (Ibid.). From this perspective, one focuses on how nature and the environment affects both people and society in contrast to classical sociology where human beings and their activities are set aside from nature.

Today, environmental sociology now contributes a strong voice in the environmental debate by creating knowledge about why people continue to create new environmental problems and why, despite increasing knowledge on climate change and its consequences, this knowledge is not converted into action (Dannevig and Hovelsrud, 2015, p. 262). Environmental sociology also elucidates - as one sets out to do in the TRANSFORM project - how local level authorities can facilitate transformation to a low-emission society.

### 1.6 Norwegian Environmental Policy

Environmental issues were first considered to be a political concern in 1910 and were institutionalized with the Nature Conservation Act administrated by the Church and Education Department (Skorstad 2005, p. 180). In 1972, issues relating to the environment were given a department of their own, the Norwegian Environmental Department, which was the first of its kind in the world. The establishment of the Environmental Department took place in tandem with the start of the Norwegian oil policy in the 1970s (Andersen, 2016, P. 114). Because of this parallel development, environmental issues were mainly considered to be resource problems, perhaps especially related to oil, since it is a non-renewable resource (Ibid. p. 81).

Since the early 90s, Norwegian environmental policy has evolved from being a national issue mainly concerned with resource management, to becoming an international concern. Nationally, this change has largely been linked to the implementation of the EØS agreement in 1992, which set unprecedented international obligations in regard to environmental measures (Boasson 2011, p.7). The Paris Climate Agreement is now the last of many international agreements that underlie Norwegian environmental policy.

### 1.7 Bodø Municipality

Bodø Municipality is the largest city and municipality in Nordland County and covers an area of 1395 $km^2$. In 2017, its population numbered approximately 51,110 (SSB, 2017) and it is the centre of administration for the county. Nordland borders Troms County to the north and Trøndelag County to the south. To the east, Nordland borders Sweden, and to the west, it comprises the coastline of the Norwegian Sea and the Atlantic Ocean. The Arctic Circle passes through Nordland County, making Bodø a part of the Arctic with a latitude of 67°.

Geographically, Bodø is located on a peninsula and has a subarctic and relatively marine climate.

To understand the contemporary transition Bodø is going through, it is important to know its history, business and geopolitical position. Bodø, once the small village of Hundholmen, occupies a central position between the commercial centre, Bergen, in the south and the fishing communities of Lofoten in the north. It was granted city status in May, 1816, in order to serve as a trade centre for North-Norwegian fishermen. The city status made it legal to both buy and sell goods in the area (Dørum 2013). Despite this development, it was not until the 1860s that the city really began to grow in population. The growth in the late 1800s was due to the herring fishery, which brought income and investments for both merchants and fish peasants. Indeed, the history of Bodø revolves around fisheries and its costal location, which have both been principal for the city's development and population increase. However, the establishment of the Bodø military airport is also an important part of the city's history. Due to increasing tensions between the Soviet Union and USA after World War II, the need for an integrated military alliance rose and, in 1949, NATO was established and Bodø was given a key military role in the high north. In 1952, Bodø's main air base, an international standard military airbase, became fully operational and functioned as a national and international defence base. Yet, in 2012, the government decided to relocate a substantial part of the military activity. Bodø, which had built its identity on being the aircraft-city (flybyen), and the NATO-city, would lose about 700 jobs (Karlsen s.426) in this process.

Although the city was experiencing the loss of a major employer, some resourceful forces saw this as an opportunity for the city to grow and develop in a new direction. The relocation of the military base in 2021 will release a substantial amount of land – space that has been unavailable to the civil population since 1950. The area, which is the size of approximately 800 soccer fields, makes it possible to move the old airport about 900 meters southwest, making room for a multimodal logistical hub connecting the airport, harbour and trains together, in addition to a whole a new city area. What was at first merely a need for renovation of the airstrip has since evolved to one of Norway's largest city development projects ever realized and has sparked great interest from actors both nationally and internationally. New City-New Airport also includes a sister-project called Smart City Bodø. The projects have received both national and international attention, and, from what I've gleaned in my interviews with politicians and administration, they reveal a great pride in the

project and a strong sense of optimism. One of my informants displays this pride clearly, stating:

> We are in a unique position, due to our location in the Arctic, and if we are able to build climate neutrality, then there is no other place where it won't be possible. We can be a showcase.

The aim is to first create a zero-emission neighbourhood with the help of FME ZEN[5], which is a research center for environmentally-friendly energy run by the research institutes NTNU and SINTEF, and then ultimately facilitate a renewal and reorganization of the existing city structure and create a zero-emission city.

In my study, I tried to focus on municipal environmental policies rather than these two projects, but it has proven difficult. These projects are highly integrated into the city's politics, identity and future vision, so it has been problematic to distinguish these three elements from each other. In the study, I include the two projects, but I do not make any clear distinction between them. There are two reasons for this: first, these projects have not been the focus of my thesis, and secondly, there is little available information which clarifies the difference between New City-New Airport and Smart Bodø. In the following sections I will treat the projects as one since they essentially have the same focus, namely developing a future Bodø.

## 2.0 Key Concepts

In the following chapters, I will briefly describe key concepts relevant to this thesis. These are notions which will be presented later in the study but are also important in order to understand some of the different elements that make up the phenomenon of climate change as we know it today.

[5] https://www.sintef.no/siste-nytt/zen-blir-nytt-forskningssenter-for-miljovennlig-en/ (19.03.18)

## 2.1 Greenhouse Gases and Global Warming

The global society is facing great climate and environmental challenges due to an increase in temperature, which we know as global warming. Global warming is a multifactor phenomenon, but greenhouse gas emissions, formed by the combustion of oil, coal and natural gas (Archer 2007 p. 4), is a major contributor to the phenomenon. The use of fossil fuels increased significantly after the industrial revolution. This built the foundation for the industrial development and higher standard of living for the western population, especially since coal and later petroleum became a part of the production of food and goods (Gåsdal and Sande, 2009, p. 52). Since 1950, production has had such an explosive increase that it is often called "the big acceleration" (Hibbart et al., 2006, in Steffen et al., 2011, p. 743).

The greenhouse gases generated by the combustion of fossil fuels increase the greenhouse gas densities in the atmosphere, consequently increasing the global temperature. This relationship is commonly called the greenhouse effect. The greenhouse effect causes unstable weather, with storms, rain, melting of the pole ices, and extreme weather in the form of floods or drought, as well as loss of biodiversity with the risk of extinction for both plants and animals (Lidskog and Sundqvist, 2013, p. 11). Carbon dioxide is probably the greenhouse that most people are familiar with, Carbon dioxide ($CO_2$) has been one of the main causes of global warming since the mid-20th century (IPCC 2007, referred to in Steffen et al., 2011, p.739), as industrial development increased (Hofstad, 2015).
Methane ($CH_4$) is a greenhouse gas that also contributes significantly to global warming. Methane is found naturally in the environment, but the increased concentration of this gas in the atmosphere is due to intensified animal husbandry, rice production, biofuel burning, waste and production, in addition to the use of fossil fuels (Archer 2007, p.3).

There is consensus amongst most scientists that the climate and environmental issues that the global community is dealing with is very much due to the extensive use of fossil fuels, such as coal, oil and natural gas (IPCC, 2013). Although there still are some climate sceptics debating whether the climate changes we are experiencing are caused by man, the scientific community is more certain than ever before, that global warming – which causes increasing temperatures, extreme weather and decreasing biodiversity – is directly linked to human activity. In fact, the fifth assessment rapport of the United Nation's climate panel found that there is a 95% certainty that climate change is manmade (IPCC, 2013).

## 2.2 Industrialization and Urbanization

Industrialization describes the transition from manual work to machinery, in addition to new technology. This process made it possible to produce more food in smaller areas, while at the same time feeding an ever-increasing population without having to deplete the soil (Steffen et .al., 2011, p. 741). Because of industrialization, people began moving away from rural areas and into the city for work. This led to an increase in population but also production of food, goods and consumption in line with the growing population (Steffen et al., 2011, p. 741-742).

With the industrialization and urbanization of the 18th and 19th century, cities have struggled with pollution, waste management issues and other environmental problems. The urban and rural settings can be viewed as opposites, with cities being everything that nature is not, i.e. sustainable, green and natural (Sandell and Røe, 2017 p. 333). Although cities do not cover more than 2% of the earth's surface, they produce approximately 75% of our greenhouse gas emissions (Bulkeley, Castán Broto, Hodson, Marvin 2011 in Sandell and Røe, 2017 p. 333). This makes it uncontroversial to view urbanization as a root cause of environmental devastation and climate change. Furthermore, it is estimated that approximately 6.4 billion people will live in cities by 2050 (Ibid.) with Norway being no exception (regjeringen.no 2014). This makes cities particularly central in regard to solving environmental issues.

## 2.3 Smart Cities

Bodø municipality would like to become the smartest city in the world[6] (Finne, 2017). Although this might seem to be an ambitious project, the smart city is no new concept. There are, in fact, a great number of smart city projects throughout the world and in recent years the smart city has become the ideal model for urban development and a lucrative market. Smart cities function as business strategies for suppliers of new technological and digital products, such as IBM and Cisco (Sandell and Røe, 2017 p. 333). Smart transport solutions, smart energy systems and smart communication technologies are rapidly expanding businesses and IT companies. Research institutions are now at the forefront of The Green Shift. Smart urban development focuses mainly on technological innovation, making cities more sustainable (both environmentally and socially) by ensuring a more efficient use of energy, resources and materials (Ibid. p.342-344) while also continuing economic development. The "smart" concept refers to sustainable and resilient cities that adhere to controlled, market-driven

[6] http://nyby.bodo.kommune.no/smart-bodo-prosjektet/category8329.html

development. This is a technical rather than social and political solution to urban environmental problems, which overlooks the fact that environmental problems are also strongly linked to lifestyle and culture (Ibid.).

### 2.4 The Green Shift

The term "green" is often used to describe solutions which have a lower environmental impact than previous or otherwise dominant solutions (Kemp and Pearson 2007 in Ulsrud, K. 2017, p.318) and term The Green Shift is originally from the book called "*The Green Shift – stop Norway's bets against climate policy"* (2015) by Anders Bjartnes. Bjartnes describes it as such; "*The term means that we are talking about something in motion, which is continuous and unstoppable, something that has come to stay*"(Bjartnes, 2015) The same year as the book was published the term was elected word of the year in 2015 by the Norwegian language council, Språkrådet[7]. The term is often used but has no clear and definite definition. On the government's pages, they describe The Green Shift as a "transition to products and services that have significantly fewer negative consequences for climate and environment than today," (Regjeringen.no, 2014, my translation).

Furthermore, the government emphasizes innovation and technology as key elements in this transformation, especially in business, which they view as a central force propelling the shift (Ibid.) I, therefore, define it as a transformation to a more environmentally friendly society within existing economic structures. The Green Shift is a term which can hold many different meanings but can also be regarded as a term illustrating an imaginary future direction in production.

### 2.4 The Paris Agreement

The Paris agreement is indeed the first legally binding and obligating climate agreement that the global community has agreed upon.[8] The agreement states that each country is to submit an individually defined contribution every five years, on which they will take measures to follow up. To enable the goal of the agreement, there is a collective emissions target. Global greenhouse gas emissions should reach the vertex quickly and then decrease rapidly. Every

[7] http://www.sprakradet.no/Vi-og-vart/hva-skjer/Aktuelt/2015/arets-ord-det-gronne-skiftet/
[8] Per first quarter of 2018 Syria and Nicaragua have not signed the agreement. https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-d&chapter=27&lang=en

fifth-year, countries within the agreement are to bring forward new contributions and are encouraged to make contributions that improve on their previous goals and are at the highest possible ambition level for their country (Regjeringen.no, 2016). The agreement aims to strengthen global cooperation against climate challenges and ensure the commitment to keeping global temperature rise below 1.5 °C with comparison to pre-industrial levels (Ibid.). At the same time, the agreement also seeks to enable sustainable development and efforts to eradicate poverty. Because many countries will be affected by the consequence of climate change, with developing countries and islands being particularly vulnerable, the Paris Agreement also established a goal of strengthening adaptation capacity, mitigating climate uncertainty, and reducing vulnerability to climate change (Ibid.).

### 2.5 Transformation process

In a local context, Bodø Municipality's transformation process is linked to the relocation of the military airport that has created the opportunity to change a substantial part of the city's infrastructure. Additionally, the transformation process must be viewed in relation to the need for new jobs due to the loss of the military, which was a major employer, and the desire for population growth and new municipal identity.

Nationally, transformation motivations have largely been the result of falling oil prices and the need for a new source of income. Since 1970, the oil and gas industry has accounted for a substantial part of the Norway's national product, but falling oil revenues, in addition to the emergence of alternative energy sources, have forced the government to recognize the need for an alternative income. This precipitated the environmental and economic turnover, The Green Shift, which focuses exclusively on climate friendly solutions and products.

Internationally, the consequences of climate change have triggered a global unity around a supranational agreement signed in Paris 2015, with the main purpose of reducing global greenhouse gas emissions on such a scale that the global temperature does not exceed 2°C compared to pre-industrial levels. To be able to achieve this, radical changes must be made in the way we organize and facilitate community and policies. Previous studies[9] have shown that local level governments play a key role in this work.

[9] Wang, L., Selvig, E., Westskog, H., Mygland, R. and Amundsen, H. (2016) *Short-Travelled Quality. What does transformation to a low-emission society mean for the municipality sector?*[9]

# 3.0 Theoretical Perspectives

## 3.1 Introduction

To explain events or phenomenon's is the prime task of science (Elster, 2008, p. 176) and theory is the tool we use to do so. In sociology, theory is the tool used when observing and analysing different elements or aspects of society (Aakvaag, 2008, p. 22). There are at least three components to a theory: first, a theory needs be validated by peers, secondly, it must have the ability to generalise, and thirdly, we must be able to use the theory to understand the occurrence of a phenomenon and possibly place it within a pattern (Churton and Brown 2010 p. 4-5).

My research question in this thesis tries to find both a professional and subjective understanding of the transformation process towards a carbon-neutral society within the jurisdiction of Bodø Municipality. To best find and describe this, I have chosen a discourse theory. A discourse can be understood as the ideas, concepts and categories used to provide meaning for a social or physical event, that is continuously produced and reproduced (Hajer and Versteeg, 2005 p. 175) between actors within the same social landscape. I expected this to be reflected in municipal plans and policies based on how the subject was brought forward in the local and national media.

Initially, I thought that my theoretical foundation would be Kjell Arne Røvik's Translation Theory (2009). Røvik's Translation Theory is an organizational theory that describes the process in which ideas and/or goals are implemented in organisations and his theory describes several conditions which determine the outcome of the process. I believed that this theory would give me some insight on how ideas and goals, such as "The Green Shift," were translated and reshaped within organizations, since the term seemed to be rather vague in terms of content and therefore also open to interpretation.

I also thought of including Michel Foucault's theory of Governmentality, which is a theory based on the "art of government." His theory gives us an unconventional understanding of how power structures are implemented through different types of social control and especially in the form of knowledge. Knowledge of the climate is scientifically based, indicating that power is not in the hands of the people working within the municipality, but rather found elsewhere. I found it interesting to explore where knowledge and power was located and how this potentially would affect the transformation process.

However, a qualitative research process is not linear, and it is therefore natural that one does not necessarily end up where one initially thought one would. In a such a process, one can go back and forth, and my study has been no exception in this regard. I was reevaluating my theoretical contributions based on Røvik's Translation Theory and Foucault's Theory of Governmentality, when I became familiar with John S. Dryzeks book *The Politics of the Earth* (2013). Dryzek presents us with different environmental discourses, which I found highly relevant for my thesis and which made me reconsider my theoretical framework.

In his theory, I found elements from my interviews, such as how my informants perceived the subject, the language they used while discussing it, the ambitions they had and their motivations for transformation. I therefore chose Dryzek's environment discourse as the theoretical framework for this thesis.

### 3.2 Political Discourses

Politics is an institutionalized process with the intention of shaping our current and future society. These political processes contain both objectives and instruments, which are based upon knowledge acquired at a given time. One can therefor assert that politics is, at its core, rational. The understanding of reality in which politics is based is known as a discourse. The term "discourse" describes the delimitation of reality and contains a common conceptual device – ideas and values – which gives politics its purpose and direction. A discourse is not unilateral exclusive. There may be more discourses at any given time. Hajer (1995) claims that environmental discourse has always had several different positions and interests which determine aspects, such as solutions, on a global or local level, or at the hands of experts, individuals, administration or the economy (Hammer 2016, p. 19). A discourse, however, must not be reduced to only rational qualities. It also consists of feelings and worldviews, constituting a complex reality. This is particularly evident in environmental discourse, since it entails our way of life, our culture and, in essence, the whole of our society (Ibid P. 20).

When I proceeded to do analyse Bodø municipality's understanding of the transformation process, I tried to do so by finding the elements that make up their understanding of the situation. I am looking for spoken and unspoken definitions, explanations and solutions that together form the core of their politics. I will do so in light of John Dryzeks environmental discourses, which I describe in the next sections.

### 3.3 Environmental Discourses

In his book, *The Politics of the Earth* (2013)Dryzek argues that the world's climate policy has shifted the central issues of pollution, overpopulation and forest conservation to include biodiversity, climate change and environmental justice. The climate policy debate has changed accordingly. For example, the climate was previously viewed as merely the average of weather, but now it is conserved as a vulnerable and sensitive biogeographical system (Dryzek 2013 p. 5). There was no such concept as 'the Environment' until around 1960 (Ibid), but today most countries have national environmental legislation, and some have environmental political parties. There are also a number of supranational agreements, such as the Kyoto Protocol of 1997 or The Paris Agreement of 2015, with environmental issues as their foci. In his book, Dryzek focuses on the rapid change happening within the environmental landscape and tries to describe several different central descriptions of the debate. Environmental issues comprise a wide field of interconnected, multidimensional, and competing descriptions (Ibid.). The book is a discourse analysis that tries to describe the most important discourses in the field. A discourse describes how actors conceive of the world. It consists of several assumptions, opinions and beliefs, which together form the basis for debate, analysis and disagreements (Dryzek 2013, pp. 9-10). Discourse analysis emphasizes the language we use when we understand and discuss as well as analyze a problem and is also closely linked to political practices and power (Hajer and Versteeg 2005 p. 175). This makes Dryzek's theory a good starting point and inspiration for my thesis, in which I consider the municipality as an entity with legal power and the power of definition, whose actions have consequences for both the municipality and the population.

> Discourses can, themselves, embody power in the way they condition the perceptions and values of those subject to them, such as some interests are advanced, others suppressed, some people made more compliant and governable. (Foucalt 1980, in Dryzek 2013 p.10).

Dryzek defines the term discourse as a shared way of viewing the world and the things in it; "Embedded in language, it enables those who subscribe to it to interpret bits of information and put them together into coherent stories and accounts," (Ibid. p. 9). Discourse is, in sum, the way we understand concepts like environment, climate change and transformation, and is

essential for the framework in which we the plan. Dryzek writes, "… environmental discourse begins in industrial society, and so has to be positioned in the context of the discourse of industrialism," (Ibid. P. 14). All industrialist societies are reliant on a strong expanding economy (Ibid.). Therefore, Dryzek believes that all environmental discourse should move away from the terms of industrialism. He identifies and describes four basic environmental discourses that involve a shift from traditional industrialism with incremental changes - adjustments which he calls a **Reformists** approach – or in the form of **Radical** change, which implies a change in both power and economics, and moving away from the idea of continual economic growth (Ibid. p. 16). The **Prosaic** approach describes an acceptance of the status quo in our political and economic society, with attempts only to reduce problems. Lastly, the **Imaginative** approach considers our environmental challenges to be an occasion for unity between economic and ecological issues.

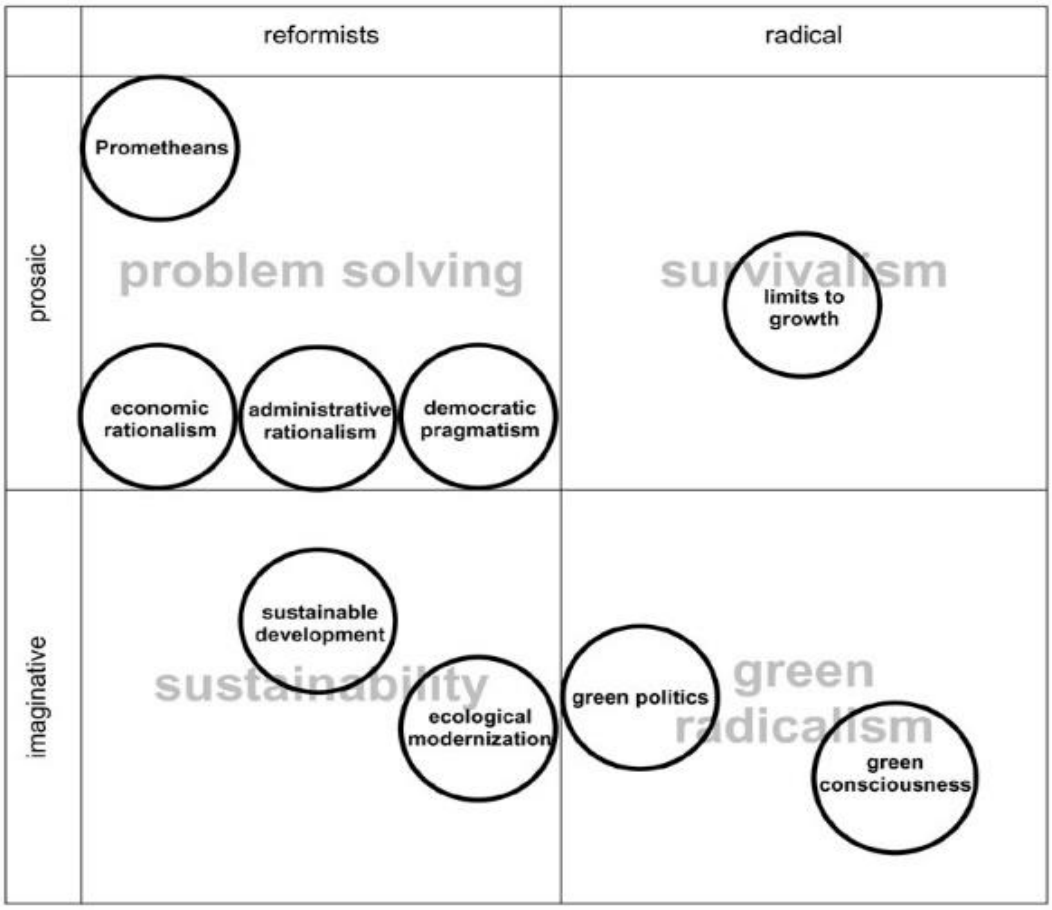


**Figure no. 1:** *Categorization of John Dryzek's four basic environmental discourses*

Combining these approaches, Dryzek creates four different discourses with subcategories. I will, in the next few pages, give a brief introduction of these before I give a more thorough description of the discourses relevant to this study.

### 3.4 Problem Solving

In his outlining of the reformist category of discourses, Dryzek relates types of environmental problem solving. The three discourses that make up this category are administrative rationalism, democratic pragmatism, and economic rationalism.

*Leave it to the experts; Administrative Rationalism*

This discourse takes both the economic and political landscape as given but acknowledges the need for adjustment to environmental challenges within the framework of our society today. It emphasizes the role of the expert in the form of administration, such as national authority or specialized organizations, rather than the citizen in solving occurring environmental problems. Changes are concentrated within and around the market, with great confidence in experts and science (Dryzek, 2013 p. 15), and through cost-benefit and risk analysis nature, which become subordinate to administrative rationalism.

*Leave it to the people; Democratic Rationalism*

Within the reformist problem, solving discourse through democratic rationalism takes liberal capitalism for granted while making nature subordinate to human problem-solving. Dryzek (2013) describes democratic rationalism as "… interactive problem solving within the basic institutional structure of liberal capitalist democracy" (Ibid. p.99). When developing public policies, democratic rationalism takes on a flexible, pragmatic and interactive form with room for experiments, in which the public is allowed to offer critiques, making the process truly democratic, i.e. putting citizens above bureaucrats. This makes the theory flexible and attentive to the complexity of climate change but also allows it to be a tool for involving the public and legitimizing the decision-making process.

*Leave it to the market; Economic Rationalism*

To the economic rationalist, market mechanisms are the best ways to solve environmental problems. Examples include a carbon tax, a tax imposed for each tonne of fossil fuel burned (Ibid. p.133), or the idea behind green consumerism, that is, stimulating consumers to make environmental-friendly choices with benefits such as free parking and lower taxes derived from buying and owning an electric car instead of a diesel or petrol driven vehicle.

This theory differs from Administrative Rationalism due to its opposition to government administration, except for its role in establishing regulations under which the free market can prosper. As Dryzek writes, "Harnessing the power of the market is often the best way to achieve the greatest environmental benefit at the least cost," (Krupp 2007, in Dryzek 2013 p. 123).

Ambitions of this sort are prominent in climate action like the Kyoto Protocol (1997), where the global community agreed upon an international market-based system for trading quotas of $CO_2$. Economic Rationalists have no belief in active citizenship and believe that the natural relationship between individuals and other groups is competition and that, through competition, human ingenuity will solve problems, including those of the environment.

### 3.5 Limits and Survival

This discourse focuses on the earth's limited resources critical to continuous growth in both population and economy. The discourse is considered radical because it seeks a redistribution of power and a shift in economic focus away from continuous growth, but still within the existing framework which also makes it a prosaic approach that attempts only to reduce problems (Dryzek, 2013 p. 17).

*Limits, boundaries and survival*

This theory is focused on overpopulation and on the earth's "carrying capacity," which refers to the amount inhabitants that our ecosystems can manage. (Ibid. p. 27). Growth in population is, therefore, seen as a basic problem. This approach is elitist and leaves it to up to the people located on top of the hierarchy to regulate and solve our capacity problems. Garrett James Hardin have contributed to this approach is who wrote the well-known essay "The Tragedy of the Commons" (1968), describing how individuals would, if allowed, put their own needs before the common good. In the Promethean Response, Dryzek argues that this discourse is

one that is very much taken for granted and has been for several centuries. The Promethean Response is a discourse that views economic growth as a precondition for a healthy and prosperous society without considering the stress that this growth might put on the environment. Also, in this theory, liberal capitalism is taken for granted, that is, it is assumed that humans can rule the world due to our ingenuity, and that improvements in technology will solve our problems and lay the groundwork for humanity to live on in perpetuity.

### 3.6 Sustainability

The discourse of sustainability holds two different perspectives which both emphasise the need for strong economic performance and an intergenerational equality (Dryzek, 2013, p. 145).

*Sustainable Development*

Brundtland Commission's rapport, "Our Common Future," (1987) made Sustainable Development the dominant environmental discourse, with focus on local and regional capacity. It sought to eliminate the dividing lines between our environment, the economy and social values, which are now recognized as interrelated. The sustainability discourse takes capitalism as a given and emphasizes the need for strong economic performance (Dryzek, 2013 p. 147) and organic growth through cooperation. This discourse is ambiguous on the question of limitation and paints a picture of the possibility to "have it all;" a strong economy, social equality and environmental conservation within the framework of the capitalistic system and for the good of the public.

*Ecological Modernization*

This theory also accepts that the structures of capitalism need only change economically in order to move away from inefficient, polluting growth, and waste is viewed only as spilled resources. High reliance and focus on new technologies will reduce carbon emissions so that there is no need for radical change. Ecological Modernization transforms the traditional economy into "green growth," i.e. it cleans up industry and agriculture while still focusing on continuous growth. One example of this is Statoil, the Norwegian multinational oil company, which is marketed as the *green* alternative to traditional oil production.

### 3.7 Green Radicalism

Both radical and imaginative (Dryzek, 2013 p. 16), this discourse is a collective term for many different ideologies and a wide range of understandings. But common throughout these ideologies is an appeal to our emotions.

Green radicalism is often connected to vegetarianism or to replacing driving with riding a bicycle and other personal choices (Ibid. p. 197), as it is up to every individual to act sustainably. Liberalism is considered social unjust and environmentally destructive due to humans' egoistic capacities.

#### *Changing People: Green Consciousness*

*Deep ecology*

Both name and content originate from the Norwegian philosopher, Arne Næss, who tried to reform some of the practises of industrial society with two basic principles: self-realization and biocentric equality (Ibid. p. 187). Self-realization implies an organic self, which goes beyond the individual. "The holistic nature of the ecological webs in which every individual is enmeshed," (Ibid. p. 188), which implies a deep respect for species, populations and ecosystems (Ibid). Equality is central to green radicalism, deep ecology and biocentricity, meaning that no being is more valuable than the other. Thinkers of deep ecology are concerned with human arrogance towards nature, as though its only value is to satisfy human needs.

*Ecofeminism*

According to ecofeminists, the root cause of environmental problems is androcentrism which means male domination. The rise of patriarchy and the domination over women and nature started the environmental problems that we are now facing, and when women are liberated, so too, will nature be liberated from the stress of modernity. Vandana Shiva, a prominent Indian ecofeminist engaged in third world women's rights, argues that The Enlightenment (1688-1789), and its "...science and economic growth, … [that] destroy[s] life's diversity and sanctity"(in Dryzek 2013 p. 190) is the cause for contemporary social and environmental problems. Ecofeminism holds highly those "female" features, like empathy, intuition and

cooperation, and believes women to be more connected to nature than men, who might understand this connection intellectually, but can never truly "feel*"* it (Ibid. p. 191).

*Bioregionalism*

Bioregionalism is focused on the ecosystem and, specifically, how people are a part of the ecosystem and adopt it as their true home. It implies that humans need to be respectful inhabitants of their ecosystem instead of forming it to suit their own needs. Bioregionalists feels that local and national, as well as political and ethnic grouping is a product of a capitalist economy and cultural globalization. They strive to replace these delineations with bioregions, since bureaucracy and other institutions could never cope with the complexity of the ecosystem.

*Ecological Citizenship*

Ecological citizenship shares common ideas with bioregionalism but can be exercised by motivated citizens regardless of location. Ecological citizenship is not as connected to the ecosystem or other physical places as bioregionalism, but instead connects to an awareness of our obligations to future generations and other earthly species. It asserts that a sustainable society can only be built by "ecologically motivated citizens and not by consumers and producers responding to the carrots and sticks of economic incentives," (Dobson, in Dryzek 2013, p. 193).

***New Society: Green Politics***

Green Politics views political action and structural change as necessary in solving accruing environmental problems, as well as social problems. Representatives for this theory are part of the political landscape in many European country, such as Norway in the form of MPG[10], with one representative of the national government in Bodø Municipality. Political and organizational structures are perceived as necessary to control human selfishness and ensure proper stewardship.

[10] Miljøpartiet De Grønne

### 3.8 Relevant for My Analysis

Although not all of the discourses described above are directly relevant for my study, some elements can still be found within my material. Since I am unable to include them all in my thesis, I will, in the next section, elaborate only those of Dryzek's theories that are the most relevant to my thesis. The first being the discourse of limits and survival.

#### 3.8.1 Limits and Survival

When looking at the first photographs of Earth from space for the first time, it was possible to see the earth as a fragile and beautiful place (Dryzek 2013, p. 25). It was also the time when scholars began to worry about the Earth's capacity in relation to natural resources and overpopulation. The Club of Rome was a key figure in the Limits and Survival discourse, and consisted of industrialists, academics and politicians (Ibid.) These individuals were convinced that humanity was heading for disaster, arguing that radical change was crucial to avoid the collapse of our ecosystems.

This was opposed by those with interests in the well-established industrial economy, and their key arguments were that humans had the capacity to solve all problems, including those of the environment. Dryzek has gathered some of these thoughts under the discourse called The Promethean Response, which refers to Greek mythology and the god Prometheus, who gave fire to the people, enabling them to manipulate the world (Ibid. p. 52-61).

Prometheans believe that the earth has endless amounts of resources and that humans, historically, have found substitutes for the resources which have been lost. There is no exception in this case, i.e. environmental problems will be solved by human ingenuity and our ability to adapt. The early Promethean discourse was the product of economists. They argued that the price of an item, such as a natural resource, would fall when demand was lower than the supply, and vice versa. This logic allowed the market to regulate the demand for resources, and, in the event of scarcity, it would be economically beneficial to find or create substitutes. They believed that market mechanisms would thus solve any problems.

The contemporary Promethean environmentalist no longer believes that the market, on its own, can solve environmental problems, but it certainly can with the help of technology. Promethean environmentalists believe that there are no natural resources, only matter which

humankind can transform through energy, for its own benefit. The only real natural resource are humans, who will drive the process forward with their will and creativity. An example of this is the idea that space can be colonized with the means of human ingenuity (Ibid.). Prometheans believe in a human hierarchy, consisting of human minds dominating everything (Ibid.). Key actors in this discourse are economic agents, in competition with each other while pushing environmental work forwards. Their foremost weapons are trends, which is a concept I found in my own material.

Some of my informants saw trends as absolutely necessary for changing markets and consumer behaviour, thereby facilitating the usage and invention of solutions with lower emissions. I was presented with a view of humanity in concurrence with the one we find in the discourse of Prometheans as the desire for highly educated and skilled people was presented as a premise of the transformation process.

### 3.8.2 Problem Solving

Dryzek divides the "problem-solving discourse" into three perspectives, but I only elaborate on two, since they are the only two directly relevant to my study and data. While they both share a common desire to solve environmental problems, these perspectives search for the solution in different areas. They are both reformist and prosaic, meaning they do not see any need for major societal changes, but rather look for answers within the existing economic and political structures. The first discourse I want to elaborate on is Administrative Rationalism, which states that issues of the environment are best solved by experts. This is a discourse which emphasizes experts over citizens (Dryzek, 2013, p. 75-84) touts social hierarchy more than equality and competition (Ibid.). This perspective has a top-down approach and uses instruments, such as cost benefit and risk analysis, extensively (Ibid.). In Administrative Rationalism, environmental problems can be quantified in order to be strategically resolved. This way, nature is subject to the human ability to solve problems. Technical experts, and leaders are hierarchically above both state and civil populations. In my study, I met informants holding this view of reality, emphasizing the use of laws and technical innovations in solving the issue of emissions. In this perspective, it was critical that experts and planning authorities were ahead of the transformation and functioned as good examples. Otherwise, climate change could turn into a disaster. The second discourse within the problem-solving discourse is Economic Rationalism, which holds that environmental problems are best solved

by market mechanisms. This type of discourse is also known as market liberalism, neo liberalism or free market conservatism (ibid. p. 122), i.e. the belief is that the market will make it possible for human creativity to reach its full potential. Items which aren't a natural part of the market, which is the case with emissions, can be ameliorated by taxation, such as that on carbon emissions introduced in Norway in 1991. This is also the logic behind the Kyoto Protocol, which facilitates the purchase and sale of $CO_2$ equivalents, or entities used in climate accounting in a global market. Another example of such logic is the production and marketing of green products, which make it possible for consumers to buy products with lower carbon footprints. The Nordic Swan label is an example of this (Ibid. p. 133-135).

In contrast to administrative rationalism, economic rationalism views experts, politicians and the like as merely facilitators of the free market. This perspective is based on the ideas of the economic actor. Key elements in this perspective are the market, prices and assets, and the idea that progression is driven forward based on the mechanism of competition (Ibid.).

The informants that I meet and who express a belief in the market and market mechanisms especially emphasize the need to create trends to make people see that climate-friendly products are *trendy* precipitating and increase in the implementation of sustainable, especially technological products. Some stated that this was now a matter of reputation; one would fall behind, both individually and as a municipality, if one did not follow up and implement the latest trends.

### 3.8.3 Sustainability

Sustainable development builds on the idea that one should strive to integrate environmental measures, encourage continuous economic growth, provide equality and achieve social justice. The term "sustainable" is a popular and well-known term, which holds no singular definition.

In relation to sustainable development, is the discourse of ecological modernization. Ecological modernization is based on the same ideas as sustainable development but with more concrete features. In the next sections, I will describe both sustainable development and ecological modernization as I find the relationship is transferable to my data. Sustainable development is based on the holistic idea that not only should we have a strong economy and quality of life for today's population, but we should also strive for an intergenerational equality (Dryzek, 2013 p. 147-155), which means equality and opportunity for future

generations to also fulfil their needs. The idea is based on the recognition that all the world's poorer countries cannot pursue the same industrial development as the western countries, since the world's ecosystem is not able to handle the burden this could cause (Ibid.), but nevertheless acknowledging that the growth of economics is essential to overcome poverty in developing countries. Economic growth is emphasized as a necessity but must be pursued in such a manner that it facilitates social justice and does not harm the environment disproportionately. The need for continuous Sustainable Urban Development is emphasized in Bodø Municipality's strategic plan for 2014-2026. Elements of sustainability, such as promoting social equality (including integrated housing development i.e. different types of housing to avoid ghettos), providing social meeting areas, further developing walking and bicycle lanes to improve air quality and creating low-emission urban environments for future generations, are highlighted.

The second discourse within the idea of sustainability is called Ecological Modernization. It is based on the same values as sustainable development but has some inequality. While sustainable development is more of a discourse, ecological modernization has some concrete measures to it. In Norwegian politics, the implementation of environmental considerations has long been a part of official policy (p. 168) and Norway has, in many ways, been a pioneer in environmental contexts. Contrary to other countries, such as Britain and the USA (Ibid.), where environmental organizations have been forced to influence policies from outside, the environmental movement in Norway has become a part of the policy-making process.

The use of financial incentives to implement climate measures within this discourse is highlighted by Dryzek (Ibid.) and by my informants. Applying for funding for the various projects was highlighted as a central part of the work, as such financial grants provided revenue and increased knowledge about environmental work. The idea behind this discourse is not only intergenerational and intragenerational, it also highlights interlevel governance. Not only do politicians have to make the changes, they are also reliant on support from civilians to implement environmental measures. This discourse moves within the existing framework of the capitalist system but is considered imaginative, since it strives to make environmentally-friendly alternatives attractive and desirable and has a long-term perspective.

### 3.8.4 Green Radicalism

Green radicalism evolved around the idea that humans can create change through altered actions and thought patterns. This discourse is represented in my data, but by only a very few of my informants. Although this is not a widespread perspective, I include it in my analysis since it has such a different focus that the other discourses I came across, which were focused mainly on finance, competition and the market.

I would like to concentrate on the idea of Ecological Citizenship, an idea held by some of my informants, which, surprisingly, I only met in the lower part of the organization. In this discourse, there is an inherent respect for the place one lives. From this perspective, one does not try to shape nature in one's own image, but rather tries to respect the place within the ecosystem. In this mindset, a place – and its inhabitants – are part of nature without creating a hierarchy over other species. This discourse is focused on local conditions, but also on the global perspective and on acknowledging the responsibility that the richer parts of the world hold for the wellbeing of the people in poorer parts of the planet.

This perspective is in the imaginative and radical part of Dryzek's table. That is, this discourse considers our environmental challenges to be an opportunity for unity between our economic and ecological issues. It is a game changer with the belief that we must change the way we think of and then, through changing our worldviews, we will be able to achieve a new ecological sensitivity (p. 187).

The informants I met – those who expressed these ideas – felt that environmental changes would come from attitude-setting work, which emphasized kindness towards nature and its creatures, keeping it free from rubbish and producing short-travelled food. They also talked about how a reuse of materials created creativity and was a soulful process. Materials such as stone, paper and yarn were presented as material that not only created thought processes, but materials which were also value-neutral.

## 4.0 Research Design and Methodology

In this part of the thesis, I will describe the process by which I have found the results that I will describe in the last part of my study, namely the analysis and the conclusion. In the following text, I will describe the design, why and how I have proceeded as I have, and how

this process has shaped the result. My thesis, a qualitative case study, has been a process of exactly one year from May 2017 to May 2018 and, during this time, I have done literature studies, document studies, recruited and interviewed relevant actors and, finally, I have written this thesis. The following is a presentation of the work.

### 4.1 The Process of The Study

When I was included in the TRANSFORM project, the overall research question was already chosen. The main research question for the project was, "How can the local level of government contribute in the sense of radical, fundamental, and paradigmatic change, to a low-emission society?" and had five sub-questions. Two of these have made up my research question for this study.

I started the process of examining literature on the Paris Agreement, which was central to the study, but I was also invited to the project kick-off at CICERO, the center for climate research in Oslo, where I became better acquainted with the researchers who together constitute the project.

I first started with making an abstract for the project and applying for approval from NSD,[11] a Norwegian resource centre assisting researchers or students with data gathering, analysis and methodology and especially concerned with privacy and research ethics. An approval from NSD is a sign of quality, which is beneficial when recruiting informants. NSD replied asking if there would be any overlap in my use of informants, since I would use interviews, observations and a documentary study, potentially compromising my informant's privacy. Initially, I was prepared to observe the city council and use this in the study, but as the study progressed, I concluded that it would be sufficient to interview and do a document study. I also came to this conclusion based on my time perspective.

In response to NSD, my supervisor professor, Berit Skorstad, stated that, according to NESH (2006), paragraph 7 on public figures, public figures should expect their public role to be research objects. I also added that I would explicitly inform my informants that due to their central positions within the organization it could be challenging to completely anonymize their contributions. However, none of them had reservations regarding this.

[11] NSD- Norwegian Centre for data Research

When I started the study, I thought that I would compare two different departments within the municipality, observing how they understood and perceived the transformation process. Eventually, it became apparent that this would not be an ideal starting point because the outcome would most likely be relatively unilateral and I wanted a broader perspective. I therefore abandoned this idea and chose to recruit participants on a continuous basis, following the tips of my informants and my supervisor. After each interview, I transcribed speech to text as the basis for my further analysis. Along the way, I have been diligently reading the local newspaper, relevant material on the municipality's own website and official municipal plans

### 4.2 Case Study

A case study is a method used for defining a study, limiting it within preexisting structures (Tjora 2012, p. 35) and might be conducted within an organization or group – such as a religious division – or, as it is in this case, a municipality.

The TRANSFORM project is based on case studies in 12 to 16 municipalities selected based on two criteria. The first criterion is whether the municipalities are considered "engaged" or "not engaged." The commitment is assessed based on whether the municipality has applied for funds for environmental measures in the national program, "KLIMASATS." In 2016, Bodø sought support for improving bicycle roads in the municipality and was subsequently called upon to be an "engaged" municipality. The municipalities have also been selected by size, as follows:

**Small** less than 5,000 inhabitants
**Medium** from 5000 to 25,0000 inhabitants
**Large** more than 25,000 residents.

My case was chosen based on these criteria, but also due to pragmatic considerations. I had preexisting knowledge of Bodø since I live within the municipality, which also means that my informants were within walking distance, making it the most environmentally friendly choice. This thesis is solely based on my study – I do not include the rest of the findings from the TRANSFORM project here.

I have studied different departments within and in connection to Bodø Municipality. My informants have included politicians, administration and employees within the organization. Other informants have been actors involved in the ongoing New City-New Airport project, the inter-municipal waste management company in addition to actors cooperating with the municipality, with the hope that they could give me some insight on how the transformation process is perceived and understood.

### 4.3 Research Method and Strategy

My thesis has an inductive design in the sense that I had no fixed theory or hypothesis going into the study (Tjora 2012, p. 18). I let my data shape the study as it proceeded. This method allowed me to keep an open mind going into the field. My hypothesis was shaped and developed during my research and in parallel with my increasing knowledge. The process of analysis was similar to processes described in the hermeneutic approach – going to and from data, literature and interpretation (Gilje and Grimen. 2000). Inspired also by the discourse analysis, I looked for prevailing statements in the interviews and documents.

### 4.4 Recruiting Informants

I have used both strategic selection of informants, by including informants working with environmental issues within the municipality, and random selection, using the "snowball method," i.e. identifying informants as the study progressed, by asking my informants about individuals that might be relevant to include. This method is in line with my inductive design.

I have contacted participants by telephone and email, presenting them with an information letter about the ongoing TRANSFORM project and about myself, a master's student with Nord University. The letter contains information about what the research will be used for and who would handle the data material. It also stated that their participation was anonymous, and that it would not be possible to trace their contribution back to them in the finished product. Additionally, informants retained the right to withdraw from the project at any time.

In regard to my selection of informants, a relatively mixed set of actors contributed to the study, and my data includes a wide range of environmental perspectives from both commercial and public representatives. Going into the project, I started recruiting actors from two different departments within the municipality. I believed that the transformation process towards a low-emission society had to be an integrated prosses, which would include every

department in some regard. I started out by interviewing representatives from departments with focuses on soft values: health and care and profit and growth, i.e. business and development, which I planned to compare with each other. As the study progressed, I concluded that the transformation process was not fully integrated into the organization, and if I were to continue as I first had planned, I would not find a deeper understanding of the preconditions for transformation as I had set out to do. Hence, I proceeded with the snowball method, asking my informants about whom would be relevant to include. By doing so, I ended up with a relatively mixed set of actors, all in some capacity concerned with the transformation process within Bodø Municipality.

I have been welcomed by all my informants and their thoughts and ideas on the subject have been conveyed with great enthusiasm.

### 4.5 Interview as Method

In my data collection, I used semi-structured interviews. They created the basis for a relatively free conversation with the intention to make room for reflections (Tjora, 2012). This is mainly due to the fact that the method consists of open questions, where the informant is free to take the conversation and the topic in the direction he or she prefers. Interviews enabled me to collect data that was "high in validity, but low in reliability*"* (Churton and Brown, 2010 p. 254). Reliability refers to the internal logic of the study (Tjora 2012 p. 202), which implies that the researcher will always contribute to the study in some respect with his or her knowledge, dedication, motivation or connection to the field (Ibid.). This contribution can be a positive contribution in terms of knowledge, but also a negative contribution towards pre-emptiveness. It is therefore important that the researcher clarifies their own personal and professional contribution and how this may affect the research (Ibid.). Validity refers to the study's logical context. To ensure that your research holds high validity, it is important to document the various steps taken gathering the data, also known as transparent, and making sure the research is rooted in other relevant research (Tjora 2012, p.207).

Interviews can vary in terms of structure, the structured interview is the most formal type of interview and has many and detailed question that can be useful when the researcher is uninformed about the topic or is inexperienced (Churton and Brown, 2010 p. 255). Semi-structured interviews are less ridged and serve more as a guide than would a formal interview. Semi-structured interviews are viewed as more valid than structured ones, since it makes

room for reflections (Ibid). The unstructured interview is for the more skilled interviewer, as it may produce a lot of text and has a very broad starting point (Ibid.).

In my study, I have set out to capture my informant's perspective on the process to a low emission society. Because their understanding of the transformation process is, in its consequences, also the outcome. The TRANSFORM project is creating new knowledge and aims to broaden the discourse on how to facilitate low emission societies. To do so, it is an absolute necessity to capture the actors (in this case are representatives for the municipality), values, understandings and worldviews. Therefore, I chose a semi-structured in-depth interview.

### 4.6 Interviews and Interview Guide

I had sent my informants information about the project in our initial contact via e-mail. When we met, I also brought a copy of the information letter for them to sign, in that way I obtained informed consent. One of my informants also asked for a copy of the interview guide so that he could prepare and reflect on the question before we met, which I did.

My informants included a wide range of individuals, with such different roles that I found it necessary to create four different interview guides. My interview guides were inspired by TRANSFORM's first draft interview guide,[12] which gave me an indication of what questions would be relevant and interesting. The TRANSFORM project guide also had a much more detailed take on the subject than I felt would be necessary for my thesis. Some of the questions that I used in all my interview, were basic ones, such as asking about informants' roles and backgrounds. I then used that information to further examine their motivations, their sense of responsibility, and their perspective on what the transformation process towards an emission-neutral society will require. As my study progressed, I found myself not depending as much on my pre-written questions. I used them as the structure for the interview rather than the basis. I found this to be a strength, since it seemed to be an indication that I was getting familiar with the field. On the other hand, one could argue that moving away from my interview guide is a methodological weakness, as I am also a part of the field and, by straying from my questions, I was not being sensitive enough to my own values and worldviews

[12] See attchement no. 1

shaping the interview. Then again, all social situations, not only interviews, are shaped by the actors involved (Tjora 2012 p. 110).

My interviews were conducted in either a neutral environment, such as a café I had suggested, or in meeting rooms in their workplace, which they arranged. None of my informants welcomed me into their offices, which I believe might have been to ensure a neutral setting for the interview situation.

### 4.7 Document Analysis

In my study, I tried to find out how relevant actors in Bodø Municipality perceive and understand the process towards a low-emission society, and to what extend the current plans and policies reflect their perceptions of the transformation process. To find this, I have chosen to do both in-depth interviews and a document study. The document study allowed me to include some additional data for the interviews in order to build up key statements and central elements in my thesis. Document studies are often used to include relevant information that can provide a broader time frame and can also give the study a further historical and contemporary perspective (Tjora 2012, p. 169). Though, I must still be acknowledged that there will always be a contextual frame to any document or text, and this must not be interpreted as an object's contribution (Hodder, I., 2002, p. 267). Ultimately, text can mean different thing in different contexts (Ibid.).

### 4.8 Ethical Issues

In qualitative research, it important to obtain informed consent. This formalizes your participants' partaking in the research and ensures that informants are aware of what their contribution will be used for, by whom and their rights as participants. I recorded all my interviews on my private phone, as it is the one object I own with the ability to record. None of my informants had any objection to this, although I in retrospect acknowledge that it might represent some ethical challenges if I were to misplace my phone or if it were stolen from me. This could compromise my informants' anonymity and be in breach of our contract. However, their names were not given in the interview, and I named each interview by a tag, one that only I could understand how to trace back to the informant. In future interviews, I will use a tape recorder that I can keep in a secure place until it is transcribed and subsequently deleted. To avoid compromising their anonymity, I have chosen categories that

act as barriers for those within interview groups. I will keep the number of informants out of the final product and will not present features or characteristics that could reveal their identity. I base my conclusions on the information they presented to me as professionals within or in connection to the organization, although I remained sensitive to their personal values, perspectives and worldviews.

In any study, the participant's anonymity, confidentiality and privacy should be conserved and respected (Miles et al., 2014, p. 62). In my study, I will be portraying people within a small organization, including people in leading positions, text from official plans and media from observing the city council. This creates a prominent element of transparency to the data. I found it necessary to apply for permission to do the study from the privacy representative council in Norway, NSD.

I also find it important to reflect on my contribution to the field of study. As researcher, I need to clarify whether my contribution would create new knowledge. By being critical and reflecting on my own contribution, reminds me that qualitative research never will be neutral (Nilssen, 2012 p.139). Common courtesy and respecting your informants' gift of time and privacy (Miles et al., 2014, p. 60) are also natural to any ethically sound research since it's impossible to create new knowledge without the insights of your informants.

### 4.9 Transcribing

After each interview, I sat down to transcribe the audio data into text. This made my data easier to categorize, organize and later analyse. When transcribing, it's a good idea to be as thorough and detailed as possible, since one seldom knows what will be relevant later in the process. For example, silence or the lack of words can revel aspects of uncertainty which could become useful in the analysis (Tjora 2012 p.144). In the text, I did not use any names, I only used "I" for informants, and "I2" or "I3" for interviews with more than one informant, to secure their anonymity. I used the letter M for myself. I transcribed my interview in my Norwegian dialect because it let me be closer to the material; it felt both more raw and genuine than if I were to translate it to English or the Norwegian written language, i.e. Bokmål. I find it easier to get a hold of my material when reading through it rather than when hearing it or only using my own recollection of the actual interview – though I believe that the situation I was in, the feeling it gave me and the natural thought process I experienced after the interview is also relevant to my analysis. The written product of this is called Jottings

(Miles et.al 2014, p. 93), which is anything that comes to mind during data collection and might be of use later in your study.

### 4.10 Analysis

In this part of the study, I will try to condense my data in order to simplify, focus and generalize it. Miles, Huberman and Saldana (2014) write that the best way to analyse data is doing so as the study proceeds, that is, as a part of the process. This allows you to go back and forth to continuously adjust the map after your terrain, so to speak, and makes the analysis a lively and energetic process (ibid). I had never done a complete analysis previously, so this has been a new experience for me. My inexperience has given me an openness and sensitivity going into the field, which I believe have been positive. However, I have manged to move back and forth as I collected my data and, early on, got a feeling of where to focus.

The process of analysis started at the very beginning of my data collection but is formalized in the following sections, the first and second cycle coding.

#### 4.10.1 First Cycle Coding

First cycle coding is, as the name implies, the first encounter with the material at the very start of the analysis and in parallel with the data collection. First cycle coding is the term used to describe the initial job of getting to know the material. In my first cycle coding, I have tried to lift the data to a higher level of reflection and code it in such a way that it gives me a deeper understanding of what the informants were telling me, essentially helping me see the data in a broader context (Miles et.al 2014, p. 72). In my analysis I used In Vivo coding and Values coding.

In Vivo coding focuses on the informant's own language (Miles et al., 2014, p. 74). This could be words or terms revealing a culture within the field, or sentences that informants use repeatedly, which could help find patterns and regularities. I included Value coding in my analysis because values can be understood as the assessments that an individual make depending on what is important to them and others in their lives. These interpretations translate into actions, and the sum of the individual's actions ultimately constitutes the community and all its complexity (Adger et al. 2008 p. 338). I therefore find the informants' subjective values, attitudes and perspectives highly relevant for my analysis.

### 4.10.2 Second Cycle Coding

After finishing my first cycle coding, I proceeded with second cycle coding, which is the next step in the analysis. In this process, I organized the material from my first coding. This would help me find patterns, such as common features, common values and perspectives. In this part of my analysis, I will present how the process towards a low-emission society is perceived and understood by professionals within Bodø Municipality by summarizing my findings within categories based on the data I have derived from the first cycle coding.

### 4.11 Reliability and Validity

We know that "all social situations are shaped by the actors involved" (Tjora 2012 p. 110); this is known as intersubjectivity. Intersubjectivity describes how no one is neutral nor objective. Rather, everyone is part of a situation through either their knowledge or lack of it. One could argue that the researcher's knowledge of the field is a strength, (Ibid. p. 203), but lack of knowledge might also add sensitivity to one's research and relation to the field.

In my case, and in this study, my lack of knowledge needs to be addressed. I have had the pleasure of being included in this project with so many renowned and knowledgeable scholars, which I am not experienced enough to compete with. However, I have learned a lot about how the process towards a low-emission society is perceived and understood by Bodø Municipality, and, as the study has progressed, my knowledge has increased. I now feel confident that I can shed light on the current discourse.

## 5.0 Analysis and Discussion

In my study, I have tried to find how relevant actors in Bodø Municipality perceive and understand the process towards a low-emission society and to what extend the current plans and policies reflect the environmental aspect of the transformation process. To do this, I chose two types of methods, namely an in-depth interview and a document study.

My material is derived from semi-structured, in-depth interviews with a total of 11 informants either working within the organization or with a professional connection with the municipality. The in-depth interview is an intersubjective method in which the text produced is central rather than the informant themselves (Tjora 2012, p. 160), and where the interpretation must be confined to the specific interview. The interpretation is based on my

understanding of the situation and does not represent anything other than the specific situation. My interviews in this study are merely a sample inside a field and represent only the informant's understanding of a situation or phenomenon.

I have also included a document study of relevant documents and texts retrieved from the media regarding the subject. A document study allows me to include data which could potentially support key statements and central elements, or to unravel elements contrary to information provided my informants. Document studies are often used to include relevant information and provide a broader time frames, giving the study a historical and contemporary perspective (Ibid. 2012, p. 169).

### 5.1 Introduction

In the first part of the analysis, I will highlight relevant documents for the purpose of shedding light on the current discourse in Bodø Municipality regarding adaption and transformation to a low-emission society. Relevant texts and articles have also been included in this part of the analysis.

In the second part of my analysis, I have created four different categories that emerged through the data analysis. The four categories that I will describe in the following chapters are based on the perceptions and motivations my informants displayed when asked about concepts and measures enabling the goal the Paris Agreement, limiting the global average temperature to 1.5 °C above pre-industrial time.

In the third part of the analysis, I will describe the three most prominent features that I found with my informants. These features are organized into three different typologies in order to highlight the different attitudes and opinions with which I became acquainted during my data collection. These typologies do not represent any individual within my material, but three different arguments that I have come across in my study. It is also important to add that my informants may have arguments that fit within more than one of the typologies, but the characters are predefined to provide a better understanding of the basis for their arguments.

### 5.2 Document Study

I started my document study by going thru municipal plans publicly available on their website. I included the Strategic Societal Municipality Plan for 2014-2026 that I consider to

be a good contribution to my analysis since it is a long-term and strategic plan that included visions, goals and means[13]. And, The Political Platform prepared by the current five parties in position (2015-2019). The latter plan has some of the same main features as The Strategic Societal Plan for 2014-2026 as it is also focused on continuous sustainable development. In addition to these two documents I also included relevant news articles and websites.

In the Strategic Societal Plan for 2014-2026 there are three main goals which gives us an idea of which direction Bodø municipality wishes to develop in the years to 2030. These goals are:

**1. 70 000 inhabitants (by2030)**

**2. A city which is good to live in - diversity, living conditions and quality of life**

**3.Bodø - Norway's security and preparedness capital**

The Strategic Societal Municipality Plan also have six focus areas. These areas are ones that the municipality will have especially focus on towards 2030 and is the product of their visions, the three main objectives as well as what they view to be their opportunities and challenges. These are:

**1. Employment and establishment**
**2. Security and safety preparedness**
**3. City of Culture, in the middle of nature**
**4. Development of Nord University**
**5. Healthy population**
**6. Sustainable urban development**

(my translation)

In this document study I will focus mainly on the goal of 70000 inhabitants and the focus area of Sustainable Urban Development. I focus on these as they are the most relevant aspects for

13 13

http://bodo.kommune.no/getfile.php/Borgerportalen/Samfunn%2C%20næring%20og%20politikk/Kommuneplan%20og%20samfunnsdel/Bilder/KommPlan%20END%20LQ.pdf

my study. The aspect of sustainable development is highlighted in both The Strategic Municipality Plan for 2014-2026 and The Political Platform, and I will therefore include both plans under the section of sustainable development.

### 5.2.1 The Goal of 70.000 Inhabitants

According to official plans, the municipality has the ambition to reach 70,000 inhabitants by 2030 and, in this time, become the capital of northern Norway (Bodø Kommune, 2014, p.7). Today, Bodø has about 51,000 citizens. To reach the 2030 goal requires a growth rate of 37%, which means over 2% growth per year over 12 years.

The ambition of growth is imperative. This objective is brought forward in the first of three main goals for the municipality, and it would therefore be uncontroversial to assume that it is a determining factor in present and future policymaking. Growth is an inherent characteristic of capitalism. Capitalism is the production of goods and services leading to profits, which are reinvested to create new profits in a dynamic system entirely dependent on continuous growth (Schiefloe, 2009, p. 441-444). It is estimated that approximately 2-3% growth is required annually to avoid recession, which could cause economic problems and unemployment. Full employment is only possible if there is the continual creation of new jobs and businesses (Ibid.). Globalization has also meant that this economic system no longer knows time or physical borders, which is echoed in the municipal plan that states: "Bodø is in competition with the rest of the world." Economic globalization intensifies this need for growth, which is essential for further development and survival (Ibid.). To continually grow despite lost jobs from the relocation of the military airbase, it seems important to recruit competence, and, according to my informants, it is important to recruit "bright minds." This perspective is evident on the municipality's webpage, Bodoivinden.no, which serves as an informational webpage for those who wish or might be considering moving to Bodø. On the website, there is information and advertisement for the city, in addition to a monthly updated overview of 10 available jobs, which are mostly high-end job and leading positions.

### 5.2.2 Sustainable Urban Development

In this section I will include both The Strategic Societal Plan for 2014-2026 and The Political Platform for the parties in position from 2015 and until 2019.In relation to environmental measures, one finds that facilitating for cyclists and pedestrians, soil protection to ensure

future production of short travelled food and $CO_2$ bonding from forestry, conserving existing and creating new green areas is highlighted. In addition to improvement in public transport and a reduction of cars in the inner-city area.
The political platform for the current position is rather progressive as it states that:

> The Newcity- vision will promote Bodø as an Arctic Environment City.

The vision of becoming an "Artic Environmental City" will in the plan be realized thru elements such as energy efficient housing built in sustainable materials but also circuit solutions for everyday life and thru these and other measures be a driving force in cutting emissions. It becomes evident that the current position is more progressive in relation to environmental measures than the one we find in The Strategic Society's Plan from 2014. Both emphasize the need for continuous sustainable development. Sustainability development is used in both plans but is given no concrete definition. The most common definition is the one from the World Commission on Environment and Development report; *Our Common Future* (Brundtland 1987), which describes it as such:

> Humanity has the ability to make development sustainable – to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs. (Ibid. p.8)

Although the term has different definitions, it essentially seeks to eliminate the dividing lines between our environment, the economy and social values, which are recognized as interrelated. Moreover, the sustainability discourse takes capitalism as a given and emphasizes the need for strong economic performance (Dryzek 2013 p. 147). Although the plans focus on sustainable development, neither of them reveals a long-term goal of becoming a zero-emission city. On the contrary, under the section *vision* in The Strategic Municipality Plan for 2014- 2026 there is expectations of growth in oil and gas activity:

> The world is looking to the north. The government's perspective in the High-North Initiative has been – and is – anchoring the High North as a new, Norwegian,

> European and global centre. North-based jobs are the basis for new jobs in many industries. Major industries in growth are oil and gas, aquaculture, minerals and tourism. (Bodø Kommune, 2014, p.6-8 my translation)

There is revealed no explicit long-term goal of becoming a zero-emission city, or a smart city, which makes it reasonable to assume that the decision to become the world's smartest city, with all that this term implies, is a strategy that has emerged recently, and possibly as a part of a municipal marketing process in a window of opportunity (Kingdon 2003, in Dannevig and Hovelsrud, 2016, p. 263). And possibly as an opportunity to actively use an ecological process to enhance the municipality's position (Bansal and Roth, 2000, p.724) in an increasingly global marked. In an article published in the local newspaper, Avisa Nordland in May 2016[14], where the development of the new airport and surrounding area is being discussed, Development director in Bodø municipality at that time, Grete Kristoffersen, stated that Bodøs ambition was not only to become a smart city, but indeed the smartest city in the world, and when the journalist's asked, "why?" Kristoffersen replied, "because we can"

> "Bodø now has a unique opportunity to redefine its role and take clear action in relation to developments." (Bodø Kommune, 2014, p. 6, my translation)

Creating smart cities – a great way of generating new jobs and investments through innovation and technological development – is also a sought-after strategy for attracting bright minds in the form of young, educated and ambitious people settling down and starting a family (Sandell and Røe, 2017 p. 333). This indicates that there might be a link between the aspiration for growth and the need for sustainable urban development, as both evolve around population and development, jobs and competition.

[14] : https://www.an.no/smart-city/bodo-2016/politikk/alle-byer-med-respekt-for-seg-selv-skal-bli-smart-city-men-bodo-skal-bli-aller-smartes/f/5-4-308875

### 5.2.4 Summary

In the official municipal plan for 2014-2026 and The Political Platform for current position in Bodø municipality which I have assessed for my study, environmental measurements such as developing the traffic network for cyclists and pedestrians, climate adaptation to ensure a safe environment for the population in a changing climate, conserving existing and creating new green areas is highlighted. In addition to improvement in public transport and a reduction of cars in the inner-city area. But it becomes evident that the ambition to become a zero-emission city, is a recent one. The need for population growth, increased competitiveness in a global marked and the further development of industries such as oil and gas and tourism is a long term goal.It is therefore fair to assume that the zero-emission thinking might be a part of a marketing strategy that aims to increase the city's competition power to ensure increased earnings, jobs and necessary growth in an increasingly global market.

In the next sections, I will present and discuss the findings from my interviews and document studies. The findings are presented with relevance to the theoretical perspectives and inspired by discourse analysis.

## 5. 3 Categorization of Perspectives

Although the temperature is expected to increase with a greater rate and magnitude in the Artic than the global average (IPCC 2013 in Dannevig and Hovelsrud, 2016 p.261), it became evident through my analysis that few of my informants saw climate change as an immediate concern, or even as a problem within their region. Generally, my interviewees referred to other parts of the world when talking about climate change:

> ...We live such good lives in Norway that we don't really see the challenges, we have to look to the southern islands to see the ice melts.

Salience, as an analytic term describing the importance that individuals or groups place on issues (Wlezien, 2005 p.557), is decisive for how people asses risk. Salience is dependent on culture, norms and social values (Dannevig and Hovelsrud, 2016 p.262). In my study, I found that the issue of climate change was perceived differently by different individuals. However, I

found consensus amongst my interviewees that action needs to be taken, even though my informants opinions about the salience of climate change varied.

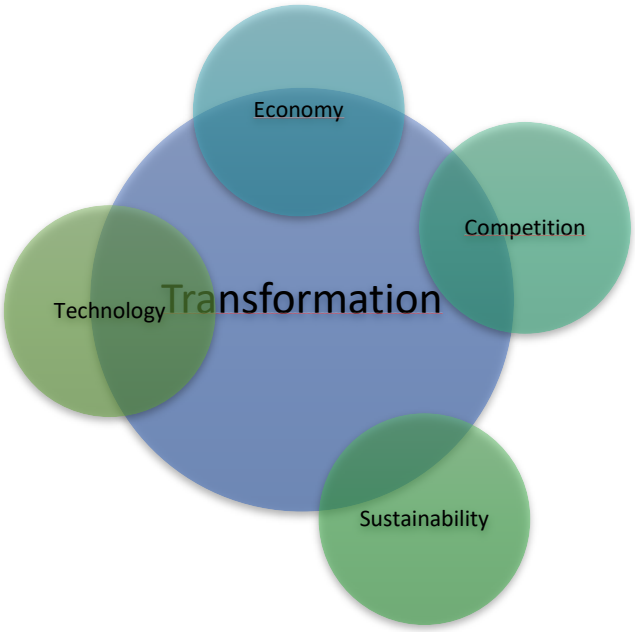


**Figure number 2**: *The different perspectives on transformation.*

In the following passages, I will present my findings in four different categories that represent the different perspectives on the transformation process in my study. These are the perspective of **Sustainability**, **Economy**, **Technology** and **Competition**. I will present these in the form of quotes from my interviews.

### 5.3.1 The Sustainability Perspective on the Transformation Process

When interviewing, I asked a set of relatively open questions and had a semi-structured interview guide because I wanted the participants to reflect on the subjects I brought forward. I asked them how they perceived concepts, such as The Green Shift, or how they felt they could contribute to the process ahead, along with other questions related to their profession or role within the municipality. More than once, the conversation shifted from their professional role and into a more personal space, and many of my informants give me insight on their

personal thoughts about climate change, which often led us to topics like social injustice, inequality and moral issues. In the following segment, I will highlight some of the aspects I was presented with during my interviews. The following perspectives are placed within in the framework of the Sustainability Discourse and the Green Radical Discourse.

### 5.3.2 Sustainable Development

Our culture is our social construct, which consists of our ideas of the world and our idea of reality. It is built on knowledge, beliefs and assumptions. Culture is the tool we use to evaluate what is important to us, what kind of actions are right or wrong and even what we consider to be beautiful or ugly. Culture is both explicit through traditions and rituals and hidden in attitudes and values. A culture can have several characteristics but often contains a guideline on what is right and what is wrong. This guideline constructs our values and is particularly determinative of how we evaluate the world around us. These assessments are not rational in the sense that they are determined from a value-based goal (Shiefloe, 2003, p139-141). In Norway, humanitarian values are strong, such as the idea of equality (Ibid), which is also a key feature in the sustainable development discourse. The perspective of equality became evident in statement such as this one:

> From a long-term perspective, the question is whether everyone in the world should be entitled to the same standard of living as us? What does it mean to each of us? So, there is a solidarity perspective in this too, in the long term, the goal must be to come down on a level where, if everyone had consumed a portion of our world resources, what's our share?

With this statement, my informant is expressing that her understanding of the transformation process has an ethical dimension and that changes must be driven forward based on principles of equality and social justice. This is an element we find in the sustainability discourse that describes comprehensive strategies that involve both the local and the global perspective and puts economic, social and ecological perspectives in context. My informant draws on the idea of social equality, which is pronounced in this discourse.

Others expressed discontent with our contemporary consumer culture, which they felt had both an ethical and economic dimension. “Of course, we all need economic income,” one of

my informants said, putting the issue in a broader context and highlighting a very interesting point of view, namely the relationship between sustainability and economy. The capitalist system is driven forward with profit as its primary target, and this economic system has no environmental considerations (Gåsdal and Sande 2009, p. 54). Capitalism has, since its inception, been dependent on fossil fuels. This has caused and continues to create the environmental problems we have today (Ibid.) via our culture and lifestyle choices. By questioning our high standard of living, my informants make room for a discussion on the relationship of these items, which, in the discourse of sustainable development, are interrelated.

Economic growth is emphasized as a necessity but must be pursued in such a manner that it does not harm the environment disproportionately and, at the same time, it must ensure social justice. Sustainability emphasizes the integrated relationship between capitalism and environmental protection.

As one of my informant said, «We have to use our headlights to be able to see the cosmic perspective of it all." I understood from the context that this related to a long-term and broad perspective on the consequences of today's politics; a holistic view. The idea of circular economy was also brought forward by many of my informants:

> ...but we also need to reduce emissions when it is produced. It is now primarily to get the production unit to disappear and this is where circular economy becomes relevant, because we must produce products that we can reuse. We need to use the new technologies, so that we don't have to spend a lot of $CO_2$ on producing new steel, copper, plastic.

Circular economy, unlike the traditional linear economic model that is based on production, use and subsequently the disposal of resources and products, a circular economy revolves around material recovery and repairing, operating in a circuit where resources are reused. A circular economy is both economically and environmentally-friendly while still within a capitalistic framework. The concept of circular economy was often brought forward and given much attention when discussing environmental issues.

### 5.3.3 Ecological Citizenship

Ecological Citizenship is found within the discourse of green radicalism, which holds values, such as respect for nature and all living creatures, highly. Although most of my informants did not really see climate change as something which affected them in the same respect as it might affect others, they still recognized that they, too, were a part of the solution. I picked up a sense of global responsibility here, which became evident in concepts like ethic, moral, social injustice and the importance teaching the next generation about moderation and respect for the earth and living creatures. When interviewing staff within the municipality working with children, they expressed their sense of responsibility in this manner:

> I have great faith in the influence we have on the rising generation, both in values and attitudes.

In the institution where this informant worked, they made a point of very concrete actions, like not pouring more milk than you are able to drink or wiping your hands with only one napkin, to teach moderation. They made toys out of recycled materials like paper, wood, rocks or yarn, inviting the children to take part in the process. Similarly, they had a kitchen garden, where they taught children how to produce vegetables such as potatoes, carrots and radish while at the same time teaching them respect for nature and living creatures. Also, they tried to give the children the tools to understand that they are a part of their surroundings and that they should be gentle to the world around them. The sentence below is an example of this:

> …when we're out walking, we're focused on cleaning up after us and if we find any trash on our way, we'll take it with us too, in that way we include the kids. We also focus on flowers and plants and we do not hurt them, we explain to the children that they are a vital part of our lives and that they are living creatures

In this example, “environment and nature” is something that is here and now and highly tangible. This person is viewing nature from a bottom-up perspective and is empowering the children with knowledge about the world surrounding them. Ecological sensibility such as this is central to the discourse of ecological citizenship. The discourse is focused on how no

being is more valuable than another. Embedded in this worldview is a deep respect for species, populations and ecosystems and the acknowledgement that humans are a part of the ecosystem, too.

Others expressed moral issues in respect to the production of batteries. In batteries used for smartphones and electrical cars, amongst other things, the mineral cobalt is a key component. The demand for this mineral has expanded rapidly and is expected only to increase over the coming years (Pagnamenta, 2018). Over half of the total supply is mined in the Congo in Central Africa, which is one of the poorest countries in the world (Ibid.). Miners working on deriving the mineral have been reported to be children as young as seven-years-old, working in the mines with no protection from poisons, such as cobalt dust (Ibid.). Rechargeable lithium-ion batteries containing cobalt have, in recent years, replaced many fossil-driven transportation vehicles and other motorized tools, which has greatly contributed to lowering greenhouse gas emissions, though it posed an ethical challenge.

> …batteries are quite controversial, it's the mining, but also there are many ethical issues with battery production, and one needn't dig too deep to see the ethical issues of battery production. But, with the help of hydrogen generators and smaller batteries, it's morally better as a mean of transportation.

In the quotation above, the production and methods of deriving cobalt are viewed within a framework of ethics. My informant does not consider this as to be a question of economics, but rather a question of injustice and inequality, which are central elements in both sustainability and ecological citizenship.

### 5.3.4 Summary

A discourse describes the way one discusses and understands a matter, such as a group or – as is relevant for my thesis, a municipality – and is the product of information interpretation, which constitutes an understanding of a given situation.

To solve a problem, one must also have a common understanding of what the problem is. Within the two perspectives I have presented, their commonality resides in that they are both

based on “the right thing to do,” where the salient feature is the concern for the social good (Bansal and Roth, 2002 p. 728). Both discourses have social dimensions that are central to them, such as respect for fellow human beings and the earth's ecosystems.

Sustainability discourse is based on the idea that economic progress is needed to create a socially just world while at the same time not putting disproportionate pressure on the Earth's fragile ecosystems. There exists a conflict between the current culture of consumption – such as moral issues with battery production – and the importance of a well-functioning economy.

The discourse of ecological citizenship focuses on social, institutional and conscious change (Dryzek 2013, p. 207) where equality is central, development is sustainable, and no being is more valuable than another. The informants that emphasized the importance of good values, the need for moderation and respect for animals and flowers embodied the key elements of ecological citizenhood. Instead of rationalizing the transformation process, these individuals idealized it, and, by doing so, also removed the rationality of the prosaic paradigm. By focusing on biological and social equality, these informants described imaginative futures, considering our environmental challenges to be an occasion for unity between our economic and ecological issues.

### 5.4 The Economic Perspective on The Transformation Process

In this economic perspective, I have been inspired by two of Dryzek’s discourses found within his problem-solving perspective. These are *Leave it to the Market* and *Leave it to the Experts*. These two discourses share a common belief that the solution to our environmental problems is found within the structural and economic framework of today, and that there only need to be small adjustments to solve the problem. The least ambitious of all the different discourses (Hammer 2016 p.184) is a top-down approach that views the mechanisms of the market and of the experts as crucial and has little to do with green politics (Ibid.) as it focuses on completely different elements, such as the economy.

However, it is no surprise that economy is central to any municipality. In a capitalist society, money, growth and expansion are key elements, but Dryzek points to Norway as a pioneer country in climate work, due in most part to its extensive use of financial means for sustainable purposes. He refers to the copious use of support grants for implementing environmental measures (Dryzek, 2013, p. 168), which was also mentioned by some of my informants in our interviews:

> We are part of a few municipalities that are being noticed in many respects, but we are not among the 13 or 14 largest. I think we are we are number 15 in regard to size, so we weren't included in the Environmental-Municipality project, we weren't big enough, to our great grief, because there would have been a lot of money in it for us.

In the next section, I will describe how my informants drew up the economic perspective of the transformation.

### 5.4.1 Leave It to The Market

The Discourse of Economic Rationalism expresses the idea that environmental problems are best solved by market mechanisms. These ideas are also known as market liberalism, neo-liberalism or free market conservatism (Dryzek, 2013 p. 122). It holds the belief that free market mechanisms will make it possible for human creativity to reach its full potential. This was echoed by my informants, who believed that by the means of the market, the municipality could use laws and regulations merely to introduce energy-efficient solutions in new projects, making it trendy:

> We have to make everybody think that this is trendy, which will make it much easier to get there. We have to use the market, and everyone has to understand that this will be profitable. It will probably be one of our tasks, to make them understand it.

The central typology within this perspective is the economic agent, *homo economicus* (Ibid.), which holds the roles of producer and consumer as key elements, along with the location of markets, their prices, and trends (Ibid.). Above, my informant states that if the consumer understands that something is "cool" and profitable, he will surely follow the trend. The idea of profitability was also brought forth by some interviewees with focus on investing in environmentally-friendly solutions as the cheapest options long term. To these informants, affordability makes the environmentally-friendly products and services a more attractive

option. Sticking to current technologies was perceived as an economic challenge, which were described as inefficient and unsustainable and, in the long-term perspective, also uneconomic.

> It's expensive to be poor, if it costs 101 and you only have 100, you can't buy it. It's probably part of the challenge. We have a system that works, and if you're going to change it, it could be an expensive investment. It's cheaper to use yesterday's technology, it may be a shelter for a municipality that has other things to do, but I hope we can invest now, which will probably be profitable if you see it as a lifetime standard.

The politicians I interviewed for this thesis stated that it was important for the municipality to reduce emissions. They expressed that this is something they collectively chose to do, with broad support within the City Council to choose environmentally-friendly solutions, even when it is the more expensive option.

> Now, what's most important, the economy or the climate?... In politics, we have repeatedly said, 'Yes, we realize that it costs a little extra money, but we choose to do it.'

Much of this support is derived from the ongoing New City-New Airport project, which has a green profile and the ambition of turning Bodø into a zero-emission city.

> It's easy to get through climate policy since it's already part of the New City-New Airport project and the Smart Bodø project thinking. It's going to take a lot to protest such suggestions because then you'd be going against the whole project and you do not want to do that.

But, as the study progressed, it became evident that that most of these economic expenses were linked to technological innovations that would, in the long run, also be cheaper options. It would also make it possible to reduce the need for transport between patients:

> We work smarter and find alternative ways to do things and concentrate on those who really need us, which means that the some of the ones we provide services to have to manage things by themselves. That way, we needn't drive as much which is an environmental measure.

Also, technological innovations, such as the possibility to produce energy in private homes and institutions and then redistribute it within its geographical area, would be both environmentally-friendly and profitable. As we can see from these statements, the environment is closely linked to technological development, but also to economy. My informants explained that long-term investments in environmentally-friendly technological solutions are also cost-effective; the little extra these investments cost in the start-up phase will be possible to retrieve after some time. This thinking is within the economic paradigm we are familiar with today and accordingly placed within the problem-solving discourse where changes are concentrated within and around the market with great confidence in experts and science (Dryzek, 2013 p. 15). Here, also, the use of cost-benefit and risk analysis nature becomes subordinate to human nature. Economic rationalism views experts, politicians and the like as merely facilitators of the free market. This perspective is based on the idea of the economic actor. Key elements in this perspective are the market, prices and assets.

With the ongoing development of the airport area in addition to the Bodø Smart City project, I was introduced to another perspective, also within the problem-solving perspective: the discourse of administrative rationalism, which focuses on how experts can solve environmental problems through technological innovations. This discourse falls within my economic perspective of transformation because, as several of my informants referenced, new technology would not only cut emissions, it would also be the most profitable option from a long-term perspective.

### 5.4.2 Leave It to The Experts

Several of my informants stressed that climate measures were often the result of various financial support systems. In these, there was "a hell of a lot of money," and it appeared highly desirable to partake in the measures. This was also highlighted by several of my informants:

> It's like, oh my god of course we are going to contribute, and we can since we have the money for it and the different financial support systems.

And one also said:

> My boss said today at our meeting, 'If you want to join in... there is so much money in it and money controls, regardless of whether we want it to or not, so if we're going to join the race, we have to be top of our class'

These to statements are related to the different projects and financial support grants which seem to be a key factor in the municipalities' environmental work. Lucrative support grants, which the municipality could apply for, are instrumental in the implementation of environmental measures at the local level (Dryzek, 2013 p.168). There also seemed to be somewhat of a competition, and when asked about this, I received an answer that pointed to the importance of competence rather than money. Having projects, a municipality could attract "bright minds," which are essential in driving the development process forwards. Competence seems to be a highly-valued variable in the transformation process:

> It's important to build an attractive city to attract expertise and workforce. If you are going to develop the whole area within the project, there has to be enough people to use it, so it's a part of expanding the city and attracting an even broader competence.

It seemed to be very important for the municipality to attract competence, and was, at times, brought forward as the only way to create progress.

> If you can recruit people who are educated and wiser than yourself, you'll be just fine. But you have to have the competence.

I was told that smaller municipalities, because of their size, would not appear attractive enough to bright minds, and would be unable to recruit competence, thus struggling to make progress. Being an attractive city is important for attracting the right people. By appearing environmentally-conscious, a municipality could look more attractive:

> I believe that in gaining enough local expertise to be a frontrunner, these small municipalities will struggle. If it has been demanding so far, it will be even more demanding in the future, and who doesn't want to be a frontrunner? If you are going to be able to recruit, it will be even more demanding in the future ... no, it will be too demanding, because it is all about having enough competence employed over time.

I found all of these thoughts to be within the capitalist paradigm, with small scale adjustments of today's practice, which makes it a reformist discourse with a firm belief that the expert will solve any problem, including those of the environment.

### 5.4.3 Summary

In these interviews on the transformation process towards a climate-neutral society, the conversation often shifted over to issues regarding the economy and competence. I was introduced to financial support systems that were both financially lucrative and effective in recruiting skilled labour. These ideas are all within the problem-solving discourse, which is characterized by a strong belief in the expert and the market. The need for a different mindset, innovation, smart technology and circular economy were highlighted. These are all aspects of the capitalist paradigm, with just small-scale adjustments of today's practice and a firm belief that human ingenuity can solve problems, including those of the environment.

## 5.5 The Competitive Perspective on The Transformation Process

The idea of competition is found in many of Dryzek's discourses, and it is a perspective I also found in my data material. In the following sections, I will focus on this perspective, inspired by the discourse of Sustainable Development and Ecological Modernization, where the need

for perpetual economic growth is regarded as a premise for progress. As we have seen, the Bodø Municipality focuses on growth, both in terms of population and business. They also wish to spearhead The Green Shift and do so by taking advantage of their geographical position. Nature is conserved as a form of capital in an economic system driven by competition. I will try to elaborate this view in the next section.

> We want to be innovative, and we clearly see that those who manage to be frontrunners are the ones who have a role in the future, is just a matter of time. The development is happening so fast and even quicker if there is money in it. I see this in all industries. If it's both economically smart and environmentally-friendly, you control the market.

### 5.5.1 Green Growth

According to official plans, Bodø Municipality aspires to reach 70.000 inhabitants by 2030 and, in time, become the capital of northern Norway (Bodø Kommune, 2014 p. 8). It is stated in the municipality plan for 2014- 2026 that to “be competitive in an increasingly global market, the ability to adjust must be well-developed," and that it needs to be acknowledged that Bodø is in “competition with the rest of the world,” (Ibid. p. 14). Many of my informants spoke about how Bodø needs to expand its population, especially now with the ongoing New City-New Airport project, which is apparently causing an increased need for “bright minds.” I learned that bright minds, such as experts, are essential in developing a smart city. Being an environmentally-conscious city would benefit Bodø by labelling it as innovative and attractive, attracting competence and giving the city an overall competitive advantage.

> I'm sure that if we are going to be able to recruit people and be a future-oriented city, if the world goes in the direction we believe it does, then it's our belief that young people want to live in an area that's eco-friendly, so those who don’t make the change will be the big losers.

As the study progressed, it became evident that much of the municipalities' environmental work was driven forward by a sense of competition, and environmental issues were regarded

as potential for long-term profitability. Studies have shown that a green profile can be a competitive advantage (Bansal and Roth, 2000, p.717) and might, in Bodø Municipality's case, also serve as an identity marker. When asked about the period after the decision to move the military airport in 2012, one of my informants expressed how the process has felt like a vacuum, a space where they needed to find their identity again. In their own words:

> There was a little vacuum, and we needed to find out, 'What are we now?' But I think that we are in a unique situation because we are in the Arctic and if we can build climate-neutrality here, then there is nowhere else it can't be done. We can be a showcase.

The need to raise again, both as a city and as a community, characterized the municipality after the decision to relocate the military in 2012. This need for creating a new identity was expressed in many of my interviews. It seemed that, in the search for purpose, the municipality has exploited some of the benefits that ecological responsiveness gives, considering that their motivation is not as based on environmental protection as one might have expected, but rather on the competitive edge it might provide. This need for innovation and purpose was expressed by one of my informants:

> If the city is to grow, then they must have something! Look to Bodø! This is the future and it is innovative. This is forward-thinking, sustainable and there's money in it!

### 5.5.2 The Green Shift

> Because The Green Shift is coming, it's just a matter of whether or not you want to join in. Those who haven't joined the race have lost!

The term "The Green Shift" has no singular definition but is often referred to as societal and economic restructuring ensuring a sustainable future. In my interviews, I asked my informants

what meaning they gave the concept, and, above all, their answers referred to economic challenges, i.e. the loss of jobs due to the closed military airbase, the reorganizing of current jobs and the need for a well-functioning circular economy. When asked how one informant perceived the concept of The Green Shift in a local context, she told me:

> I believe that because we lost such a large workplace, we had to look at new ways to create a new society, and that became a catalyst, …we brought The Green Shift to us.

Some informants highlighted national circumstances in relation to The Green Shift, with examples like the decline in oil prices:

> It takes a disaster to change us, and in this case, it was the decline in oil prices, which meant we were forced to get together and reorganize… and then The Green Shift became the word of the year [in 2015].

The trait of competitiveness is also focused on cost-benefit analysis and is often concerned with measuring environmental responsiveness in numbers (Bansal and Roth, 2000, p. 724). This became evident in many of my interviews, with concepts like energy efficiency, circular economy and up-front investment.

> People are focused on it and are probably inclined to choose the environmental solutions if options are otherwise equal, so as it is a competitive advantage, we are constantly seeking solutions for both commercial and environmental benefits.

My assumption is that by adding nature, environment and smart into politics, one can seamlessly turn them into economic instruments. According to those I've talked to in this study, green labelling can incorporate ecological responsiveness into the economy. Thus, action is taken to reduce the overall environmental impact within the municipality without

breaking the reality of today. In this way, problems are embedded in the same system that created them initially (Hammer 2016, p. 192).

### 5.5.3 Summary

Growth and expansion are inherent elements of contemporary culture, and this idea is also found in the municipal plans, newspaper articles, and in my interviews with actors within the organization. The municipality's environmental work seems to be driven forward by competition in a global market and its Arctic location is its primary product. The transformation process in Bodø Municipality is presented as competition, where growth is inherent, and innovation is equated with environmental measures. The municipality seeks to be perceived as innovative and environmentally-friendly, which is well within the discourse of sustainability, since the environmental narrative holds room for both progress, growth and money (Dryzek 2013 p. 170-174), holding nature as capital where economic prosperity and environmental protection are conjoined, and even reinforce each other (Ibid.).

## 5.6 The Technical Perspective on the Transformation Process

The idea that technology would solve many of our environmental issues featured prominently in most of my interviews. Such technology included welfare technology, hydrogen trains, energy producing houses and seawater-produced heating. There was also talk about electric planes and boats, autonomous vehicles, among much else. Many had the firm belief that the answer to cutting emissions locally was using existing as well as future technology. By using innovative technology, it would be possible to cut a substantial amount of emissions in areas such as housing and transport, which today account for most of our emissions (Lidskog and Sundquist, 2013 p. 104). However, I found that my informants had varying objectives when it came to the concept of technology.

Some expressed, with a joyous tone in their voice, that "technology is so much fun!" This illustrates the belief that not only are we able to cut emissions associated with several elements of our everyday lives, but we might also enjoy the process while we're at it. Some also viewed technology as our only option, since people would, most likely, never change their behaviour or lifestyle. This is expressed by the following statement:

> Transport is one of the greatest challenges we face in the process of becoming a low-emission society, but I can imagine that people will travel less with globalization. As the world gets smaller, people will travel even more.

Some actors saw technology as simply a tool to reduce spending, simplify jobs, or even increase quality of life in terms of greater freedom and co-determination for users. Since there seemed to be two different groups of technology enthusiasts in this perspective, I will make two differentiations, the first refers to those that view technology as a tool, and the second refers to those who regard technology a goal.

### 5.6.1 Technology as a Tool

When interviewing actors within the department of healthcare, most of my informants saw the use of technology simply as a tool to ease their everyday job with patients. At the same time, technology seemed to be intermixed with a story of environmental protection. This was primarily due to the fact that technological tools could eventually replace people, but without people there would be a need for transportation between patients. Cameras, electronic medicine dispensers and GPS solutions were brought forward as innovations that could solve these issues. From this perspective, innovations in technology were cost-effective tools that could cut emissions as a bonus. This is illustrated in an interview I had with an actor within this department, here he is talking about how elderly patients still living at home can benefit from using technology in their homes. In the quote below, emission reduction, technology and the financial benefits of such innovations are related:

> I would rather feel safe in my own home, with some form of monitoring. For example, during the night, instead of having a night watch, having some employee in my house, I could have a camera on the wall with a heat sensor that was able to see if I had fallen out of bed.

The local waste management company I interviewed viewed the replacement of their fossil-fuelled machinery with electric, or even hydrogen powered vehicles and tools as a natural development. My informants saw the process of buying new and fossil fuel-free tools as a

necessary investment. These investments were not based on the idea that new technology was exciting or a goal in itself, but because the company felt committed to cutting emissions within their sector. They chose to do this even though their customers were mostly concerned with the price of the service they provided. Fossil fuel-free machinery was something they wanted to invest in when they had the opportunity to do so, and so they balanced their budget between environmental considerations and costs without exceeding the market price for their services. They also welcomed extended municipal initiatives and regulations within the renovation industry, which would allow them to invest more in fossil fuel-free vehicles and equipment without falling behind the competition.

> A great deal of the job needs to be facilitated politically because new technology always costs more, at least to begin with. But someone must be first and get this started. Someone with either economic muscles, or through policy. That's my impression.

### 5.6.2 Technology as a Goal

In some of my interviews, it was expressed that technology was a goal in itself and almost a natural part of our future human and societal development. This view was given a historical perspective by one of my informants:

> Just think of the Stone Age man when he didn't have any more flint. It did not go to hell from there... We have managed to develop from the Stone Age.

Thoughts like these indicate that our human ingenuity gives us the ability to rule over nature and gives the impression that improvements in technology will solve our environmental problems. This attitude is also evident in the following sentence:

> It is pretty clear to me that technology will in some way solve a lot of our environmental issues, although it seems like some people want us to go back to riding horses again.

The first quote us that climate change is merely a technicality and the latter shed some light on this informant's idea of how our environmental issues are to be handled, i.e. through technology and human ingenuity. Several interviewees also expressed that the municipality could exploit its geographical position by facilitating research for businesses that want to develop new products. Technology is, in this perspective, experienced as uniquely positive:

> We *are* a well-developed city in the Arctic and we are trying to show the world that we actually are… There are those who believe that there are polar bears walking around here and who do not really understand how it is possible to live here… that's what we are trying to show [them]…This is a great place to test [new technology].

Facilitating for or creating new low-emission products could potentially contribute to global recognition*:*

> From an environmental perspective, it is important to test existing solutions, but also come up with new solutions that can be exported out of the world in relation to zero emissions. So, there is some pride in it then, on behalf of Bodø. How can we contribute [and] help build credibility in the world or be noticed for doing something beneficial for the climate?

### 5.6.3 Summary

Regardless of whether my informants looked at technology as a tool or as a goal, their perspectives fit well within the discourse of the Promethean response. The Promethean response focuses on the idea that human beings can solve their problems with the help of their intelligence and creativity. It has been done before, so there is no reason why this should not be our solution in the future. Prometheans say that the only thing that exists is the material that the man can use and shape for his own, and that the human mind dominates the world by communicating issues of culture and lifestyle. Key elements within this discourse are economic agents and competition, pushing environmental work forwards with the help of market mechanisms and innovations.

## 5.7 Typologies

In this part of my thesis, I will illustrate the key arguments presented to me by those who have contributed to my study. I will do so by creating three different typologies. Central to these typologies are: 1) involvement in relation to the environment, 2) knowledge and attitudes on elements such as economics, 3) technology and 4) ethics. They are also ranked based on their values and worldviews. The latter is defined by the degree of individual or collective orientation, namely their individual or local point of view versus a global perspective on environmental problems. These typologies are intended to serve as an aid, identifying key arguments in the local discourse on environmental challenges, which I find central to my thesis. I will start by presenting the growth-oriented rationalist.

### 5.7.1 The Growth-Oriented Rationalist

*Keywords: Economy, Trend, Competition and Growth.*

Rationality comes from the Latin word *ratio*, which in English is translated as "reason." The concept of rationality is based on the relationship between goal and means and describes how actors calculate their actions based on the opportunities available to achieve different goals or objectives. The rational actor assesses both risk and cost, basing his or her actions on what will be the most reasonable and cost-effective outcome. Structural frameworks such as role, culture, values and knowledge are key elements in such assessments.

In my interviews with key actors in Bodø municipality, I often met arguments related to the ones we find in the growth-oriented rationalist argumentation. This type of reasoning was found particularly in central positions in the municipality. The following individual was a firm believer in market mechanism;

> When the state begins to move forward, it spends millions a year, you'll see what will happen, then those who wish to deliver realise it, and then you get this snowball rolling. So, by using the tools you have, of course, I believe that the market makes it easier for us to get there. And so, it must be profitable! That way, we will get there much faster than if we were going to subsidize ourselves to death, we'll have to use the market. That's always my attitude

And of course, they also had great faith in trends:

> You need to be up to date on energy and climate, you cannot have bad energy and climate plans. Nobody uses coal anymore. For example, there are not many my age who buy a diesel car. It's because of the reputation you get. So, it's become a trend and that's great!

He/she was also concerned with the potential economic benefits, which could come from taking a leading position in national and international environmental work. He/she was keen on building an attractive reputation. Being a climate-aware city was held forward as a particularly attractive feature, potentially attracting educated workers or experts who would be important to achieving national goals related to the Paris Agreement, but also as an important factor in increasing the population.

> What's important is building Bodø into an attractive city to attract competence and skilled labour because if we are to develop the entire area of New City-New Airport, there have got to be enough people to use it. So it's a part of making Bodø grow and attracting an all-over broader competence

The growth-oriented rationalist describes lowering emissions as a profitable economic turnaround, especially in relation to creating new jobs. This actor often talked about the new airport and the Smart City as a window of opportunity for growth and building an attractive reputation. Environmental work is, therefore, merely the means to achieve profit and status.

> What so special about Bodø is the new city project with everything that it holds. We are trying to use it for all it's worth, which is beneficial for the climate, but also for Bodø. And possibly becoming a spearhead in The Green Shift, that's what we market ourselves as.

The growth-oriented rationalist often expressed how climate measures could be utilized beneficially for the municipality. There were thus several good products that could be harvested if one was innovative and ambitious in cutting emissions, streamlining energy use and facilitating for those who wished to invest in the municipality:

> We are a city in a completely unique situation. We are in the Arctic, we have a climate that changes all the time, we have short distances, we are uniquely suited for testing out new technologies, such as stress testing, in very short time. We are compact, so we get tests on a large scale, but you needn't worry about infrastructure, which you may have had to if you were to do it in London or Dublin.

The growth-oriented rationalist has a main a focus on the local level and is mostly concerned with economy and especially profit. They show little concern for global issues and are therefore low on collective orientation that views climate change as a lucrative and profitable window of opportunity.

### 5.7.2 The Global Citizen

Keywords: *Moderation, Solidarity, Reuse*

The human conscience separates us from other animals, and the word describes the perceived feeling with which we associate our actions. Our conscience is a product of reflection and learning, a process that is a product of our interaction with other individuals or groups. Our conscience is also a product of culture and its inherent values and morals. The global citizen that I met in my data collection was concerned with the small and simple things that surround us in our everyday lives, and how living in harmony with the world around us can help to influence the climate positively.

To the conscientious actor, the human mind is both creative and process-oriented. By focusing on elements that nourish the soul, we can live in a more environmentally-friendly manner. The process of *creating* is especially brought forward as a factor that gives the individual *purpose*, and which leads to a lower environmental impact. Circularity is emphasized as particularly positive, i.e. the reuse of materials and objects, with statements such as this:

> I see opportunities. Instead of just throwing things out... I ask myself, how can I reuse this?

And:

> I usually say that litter is not a problem, but a resource. When it comes through the door here, it becomes a resource.

Other key elements in the global citizen argument are the concepts of solidarity, that is, considering how *my* choices should not be at the expense of *others*, and moderation, i.e. simply avoiding using more than you need:

> How much do you really need? How much milk do you pour and how much do you throw out. We must teach them to make these considerations to avoid wasting…. It is about consciousness, so that the kids later can make some good choices on their own.

The global citizen has little in common with the other two typologies, which are concentrated around growth and technology. It is not that the global citizen advocates for the reversal of societal development, it simply focuses on simple things, like the process of creating, the pleasure of caring for nature and holding immaterial values highly, making the most out of what you already have. The global citizen is mostly concerned with ethics and has great respect for nature. This person has a collective orientation focused on people and nature and has a global view on climate change.

### 5.7.3 The Technology Optimist

*Keywords: Smart, Technology and Experts*

All societies have some material anchoring in which the culture exists, either man-made tools and objects or natural structures. The degree to which technological aids are used in a society is used to classify and compare different cultures (Schiefloe, 2009, p. 150). The concepts of developed countries and less developed countries are well-known and used to describe the

degree of industrial development. In sociology, the concept pair, non-material and material culture, is used, referring to the scale of tools, buildings and infrastructure within the culture. In this framework, Norway is a technologically advanced country, which means it has a high material culture (Ibid.).

The technology optimist's argumentation, with which I became acquainted during my data collection, holds the belief that the goals of the Paris agreement can only be achieved through the implementation of technological innovations. The development of new products is essential in this worldview, and the process is driven forward by experts in sciences such as engineering and information technology. For the technology optimist, the art of measuring is central. Emissions and contamination are entities that are possible to concretize with the aid of precise measurements, and reduced by focused, targeted measures.

> We both partner and pilot area FME ZEN, which is a research centre for the eco-friendly energy. It is a 7-year program financed by the state. It is the largest research project in Norway and, with something like 400 million in funding, it has many different areas, such as zero-emission neighbourhoods, carbon capture and storage and underwater technologies.

The technology optimist experiences climate change as merely a challenge that can be solved by producing, consuming and living smarter. Smart is a key word that is used intentionally, but seldom elaborated on, making the term quite diffuse. However, the term "smart" is often associated with the idea of living better. Living better is thus directly linked to lower emissions, allowing societal development to continue in the same direction without polluting elements and emissions. The latter are reduced by technological innovations, such as energy innovations, hydrogen and electrical means of transport and robotization of aids.

> I am a technology optimist, I believe that to make use of the new technology that is more efficient in relation to discharge capacity, much lower than the old technology, I think that's our best solution. That's also an advantage when we are building up a new city area where we can make use of the latest and greenest technology.

Technology optimism often associates people with emissions, and can, by means of technological aids, replace humans as a solution to emission cuts. Technology is often entwined with the idea of progress and has a key role in ensuring the prevalence *"of capitalist production in the face of its environmental consequence"* (Keary, 2016 p.7).

> We have now begun a pilot project with medicine dispensers, digitally, especially for those in psychiatry. By using it, they don't have to wait the whole day, which can give them even more anxiety. Rather than someone who dispenses the medicine, they can do it themselves, and if the person doesn't take it, an alarm is triggered. That way, personnel don't have to drive around to dispense medicine and people do not have to spend the day waiting.

Robotics are part of future development, according to the technology optimist. Several times, ideas such as the use of autonomous vehicles were brought forward in my interviews. This concrete product could potentially make public transport more efficient, while also reducing emissions. The future of autonomous vehicles will also make professional chauffeurs, such as bus drivers, excessive, but this was not problematised by the technology optimist:

> It's out of our control, which professions will be affected by these changes. It will be the result of the general automation and digitalization in many industries, and there will be changes. At the same time, there will be new jobs in other industries. It is merely the current trend.

The technology optimist is mostly concerned with technology and innovations of technology and has a relatively elementary worldview. The technology optimist does not consider the complexity of climate change and under-communicates ethical considerations, such as poverty and injustice. This actor has a global perspective on climate change but assesses the challenges within local and/or individual structures.

## 6.0 Recapitulation

In my study, I have tried to find out how the process towards a low-emission society is perceived by actors within and in connection to Bodø Municipality and to what extend the current plans and policies reflect environmental aspects of the transformation process.

I have learned that although climate change is a global issue, it still is not perceived as such by my informants. These interviewees often referred to other parts of the world where climate problems seem to exist, indicating that the salience issue for the transformation in Bodø was not climate change. While working on this thesis, I have learned that the perceptions for and the ideas on transformation at the local level have some main features that I have shed light on and have translated into different perspectives and typologies. These are the perspectives that, I believe, form the basis for environmental discourse within the municipality.

### 6.1 Summary Document Study

In my document study, I assessed The Strategic Societal Plan for 2014 to 2026 and The Political Platform for the current position, in addition to relevant newspaper articles and websites. I found that the municipality has ambitions for population growth and has quantified this to be 70.000 people by 2030. This is one of the municipality's main goals and one can therefore assume that it is a determining factor influencing the municipality's work and policies as it moves towards 2030. In both plans, environmental aspects of the transformation process such as developing the traffic network for cyclists and pedestrians, climate adaptation to ensure a safe environment for the population in a changing climate, conserving existing and creating new green areas is highlighted. In addition to improvement in public transport and a reduction of cars in the inner-city area but it becomes evident that the ambition to become a zero-emission city, is a recent one.

### 6.2 Summary Perspectives

In my interviews with key actors in or in connection to the municipality, there were several different perspectives that characterized the understanding of the transformation process. I have chosen to describe four of these as technology, competition, economy and sustainability. I will, in the next section, give a brief description of each.

To sum up my findings, it seems that much of the current environmental work focuses around technological development and implementation. The central actors I have talked to are technologically oriented and follow development of new technology closely. By using innovative technology, it is possible to cut a substantial amount of emissions in areas such as housing and transport, which today account for most of local emissions. Technology constitutes a large part of the environmental discourse within the municipality and, in many cases, is perceived as synonymous with environmental measures. We find this technological understanding of climate challenges within John Dryzek's Promethean Response, which is a limit and survival perspective. This perspective takes liberal capitalism as a given with the intent being only to reduce problems, accepting the status quo and trying to find solutions within existing structures.

In my thesis, I also describe how municipalities' environmental work is being driven forward by a sense of competition. The need for growth and expansion and the ambition of being a spearhead in The Green Shift was brought forward more than once. It appears that there is a lot of prestige in being environmentally aware, and the green profile is an attractive label for a municipality, receiving national and international attention. Bodø's arctic location provides the opportunity to be a playground for companies and research institutions that wish to develop and test new technology in such conditions. This attraction calls for qualified workers who will be able to drive the process forward, as there is some uncertainty about whether the process is a technological or environmental one, though the two are often woven together. The municipality takes great efforts to recruit "bright minds" through their own channels, such as bodøivinden.no. From the perspective of competition, what is marketed is the city itself. It is sold as innovative, smart and arctic, and is bought by the highest bidder, which seems to be manufacturers of technology. This process is well within the discourse of Sustainable Development since the narrative holds room for both business and money.

The economic perspective is also strong. Certain support grants are highly lucrative in their contribution to a functioning circular economy from both an economical and environmentally-friendly perspective. The circular economy limits demand for natural resources and enables a reuse of raw materials in a cycle where waste is minimized. Consumption is no obstacle from this perspective, but is rather made "smarter," rendering economic growth perpetual. This perspective is found within the problem-solving discourse of administrative and economical rationalism, which holds a firm belief in experts and market mechanisms as facilitators of change.

Finally, I have experienced a collective sense of responsibility among my informants, which I have chosen to view within the framework of sustainability and ecological citizenship. Even though environmental challenges were not present in their experience of the world, they felt a great deal of responsibility for current issues. Some emphasized the influence they had on younger generations, others had a slightly more economical perspective on the situation, pointing out that we, as a nation, must help solve the problem because we have the money to do it. Morality and solidarity were also brought forth as factors that affected the informants in their experience of transformation. Here, the problems were not related to the environment, but rather to human considerations. Unethical production and consumption lay the groundwork for environmentalism and efforts to find better solutions to environmental problems. This is a perspective that contrasts with economic rationality, highlighting especially the responsibility of the wealthy considering their ecological footprints.

### 6.3 Summary Typologies

I have also highlighted and refined the three most prominent arguments presented to me in the interviews. These are the arguments from the growth-oriented rationalist, which are mostly concerned with the economic side of the transformation. I have also described the global citizen, which views the transformation within a framework of ethics. Lastly, I have described the technology optimist, which is eager to create and implement the lasting technology and is certain that technology will be the solution to our global environmental problems.

### 6.4 Conclusion and Future Studies

My thesis describes how the transformation process in Bodø Municipality is not so much about nature, climate change or the environment in general, as one could expect. The process is largely linked to other elements that, in turn, rephrase what environmental work is about. Items such as consumption, growth and competition are not problematized and are viewed as a natural part of society and community development. Official municipality plans reveal an ambition for growth in both population and business, which is in line with the impression I formed from my interviews.

Environmental work is being pursued through a process that includes meritocratic ideas, opportunism and economic benefits where technological innovations are promoted as solutions to how we can continue and do more of what we have done so far. My study

illustrates how a large municipality in Norway understands the transformation process that we are internationally committed to through Paris's Climate Agreement from 2015. It shows how this process is linked to a growth discourse, typical of a capitalist economy. In future studies, it would be sensible to investigate how this will manifest in other urban development processes and transformations.

## Literature


Adger, W., Dessai, S., Goulden, M., Hulme, M., Lorenzoni, I., Nelson, D.(...)Wreford, A. (2009) *Are there social limits to adaptation to climate change*? 93:335-354

Aakvaag, G.C., 2008. *Moderne sosiologisk teori*, Oslo: Abstrakt forl.

Amundsen, Hege. Hovelsrud, Grete K. Aall, Carlo. Karlsson, Marianne. Westskog, Hege (2017) *Local governments as drivers for societal transformation: towards the 1.5 °C ambition*

Amundsen et al., 2018. Local governments as drivers for societal transformation: towards the 1.5 °C ambition. *Current Opinion in Environmental Sustainability*, 31, pp.23–29.

Andersen, G., 2016. Parlamentets natur: Produksjonen av en legitim miljø- og petroleumspolitikk (1945–2013). *Parlamentets natur: Produksjonen av en legitim miljø- og petroleumspolitikk (1945–2013).*

Archer, David (2007) Global Warming , understanding the forecast. Blackwell Publishing Ltd.

Austgulen, M., og Stø, E. (u.a) *Norsk skepsis og usikkerhet om klimaendringer*, Vol 54, (Nr2),123-152

Bansal, P. Roth, K. *Why Companies Go Green: A model of ecological responsiveness* (2000) The Academy Of Management Journal, Vol 43, No.4 pp.717-736

Boasson, E.L., 2011. *Norsk miljøpolitikk og EU : EØS-avtalen som inspirasjonskilde og maktmiddel*, Oslo: Europautredningen.

Bolstad, Gunnar(1993) *Inn i Drivhuset, hva er galt med norsk miljøpolitikk?* Oslo: J.W Cappelens Forlag as

Brundtland & Brundtland, Gro Harlem, 1987. *Our common future*, Oxford: Oxford University Press.

Bulkeley, H., Castán Broto, V., Hodson, M., Marvin, S. (red.) (2011). *Cities and Low Carbon Transitions.* New York: Routledge

Churton, M. & Brown, A., 2010. *Theory and method* 2nd ed., Basingstoke: Palgrave Macmillan.

Dannevig, H. & Hovelsrud, G., 2016. *Understanding the need for adaptation in a natural resource dependent community in Northern Norway: issue salience, knowledge and values*. *Climatic Change*, 135(2), pp.261–275.

Dobson, Andrew (2004) *Citizenship and the environment*. Oxford: Oxford University Press

Dryzek, John S. (2013) *The politics of the earth, Environmental Discourses*: Oxford university press

Dunlap, R.E. & Catton, W.R., 1979. Environmental Sociology. *Annual Review of Sociology*, 5, pp.243–273.

Dørum, Knut (2013) *Byen blir sentrum, Bodøs Historie Bind 2 1816-1890* Trondheim: Akademika Forlag

Elster, Jon. (2008) Vitenskaping forklaring. I: Balsvik et al., *Introduksjon til samfunnsvitenskapene: en antologi*, Oslo: Universitetsforlaget. P. 175-199 Del III.

Gilje, N., & Grimen, H. (2000). Samfunnsvitenskapenes forutsetninger: innføring i samfunnsvitenskapenes vitenskapsfilosofi. Universitetsforlaget.

Gåsdal, O. & Sande, A., 2009. *Miljø og samfunn : sosiologiske perspektiver på forholdet mellom mennesker, naturen og de menneskeskapte miljøproblemene*, Oslo: Cappelen akademisk.

Hammer, S., 2016. *Fra evig vekst til grønn politikk : samfunnsutvikling i brytningen mellom tre diskurser*, Oslo: Vidarforl.

Hajer, M.A., 1995. *The politics of environmental discourse : ecological modernization and the policy process*, Oxford : Clarendon Press ; Oxford University Press.

Hajer, M. & Versteeg, W., 2005. *A decade of discourse analysis of environmental politics: Achievements, challenges, perspectives*. Journal of Environmental Policy & Planning, 7(3), pp.175–184.

Hardin, G., 1968. The Tragedy of the Commons. *Science*, 162(3859), pp.1243–1248.

Hodder Ian. (2002) *The interpretation of documents and material culture*. In: Weinberg, D., 2002. *Qualitative research methods*, Malden, Mass: Blackwell. p. 266-281 chapter 15.

IPCC, 2013: Climate Change 2013: *The Physical Science Basis*. Cambridge University Press, 1535 pp.

Kalleberg, R. & De Nasjonale forskningsetiske komiteer, 2006. *Forskningsetiske retningslinjer for samfunnsvitenskap, humaniora, juss og teologi*, Oslo: Forskningsetiske komiteer.

Karen O'Brien(2017*) Klimaendringer og omstillinger i samfunnet,* In: Jordhus-Lier, David, J. et al., 2017. *Samfunnsgeografi: En innføring*, Cappelen Damm Akademisk.

Karlsen, Wilhelm (2016) *Med luft under vingene, Bodøs Historie Bind 4. 1950-2016*

Keary, Michael (2016) *The New Prometheans: Technological Optimism in Climate Change Mitigation Modelling.* Environmental Values, Volume 25, Number 1, February 2016, pp. 7-28(22) White Horse Press
et al., 2015. *Dette forandrer alt: kapitalismen mot klimaet*, Oslo: Oktober.

Lidskog, Rolf., & Sundqvist, Gøran., 2013. *Miljøsosiologi*, Oslo: Gyldendal akademisk.

Miles, Matthew, Huberman, A. Michael, Saldana Johnny (2014): *Qualitative Data Analysis, A Methods Sourcebook.* California: SAGE Publications, Inc.

Nilssen, V.L., 2012. *Analyse i kvalitative studier : den skrivende forskeren*, Oslo: Universitetsforl.

Pagnamenta, R., 2018. Child cobalt miners risk slavery for the sake of batteries, says Hermes [Scot Region]. *The Times*, p.48.

Røvik, Kjell Arne (2016) *Knowledge Transfer as Translation: Review and Elements of an Instrumental Theory*

Røvik, Kjell Arne (2009) *Trender og Translasjoner, ideer som former det 21. århundres organisasjon*. Oslo: Universitetsforlaget.

Sandell, Aron og Røe, Per Gunnar(2017) *Mot den grønne byen?* In: Jordhus-Lier, David, J. et al., 2017. *Samfunnsgeografi: En innføring*, Cappelen Damm Akademisk.

Schiefloe, P.M., 2009. *Mennesker og samfunn : innføring i sosiologisk forståelse*, Bergen: Fagbokforl.

Skorstad, B. & Universitetet i Tromsø 2005. Miljø, kunnskap og moral : tre casestudiar av miljøomsyn. *Miljø, kunnskap og moral : tre casestudiar av miljøomsyn*, p.289.

Storbjørk, Sofie. Isaksson, K. Hjerpe, M. Atnonson, H. Hrelja, R. (2017) *Kommunerna och Klimatomstallningen. En sluttrapport från forskningsprosjektet Clipp.*

Steffen, W., Persson, Å., Deutsch, L., Zalasiewicz, J., Williams, M., Richardson, K., (...)Svedin, U.(2011) *The Anthropocene: From Global Change to Planetary Stewardship*. 40: 739-761

Tjora, A.H., 2012. *Kvalitative forskningsmetoder i praksis* 2. utg., Oslo: Gyldendal akademisk.

Ulsrud, Kirsten. (2017) *Grønne innovasjoner i sosio-tekniske systemer*. I: David Jordhus-Lier og Kristian Stokke (red.) *samfunnsgeografi, en innføring.* Oslo, Cappelen Damm Akademisk/ NOASP, 317-331 chapter 23.

Westskog, Hege. Hovelsrud, G. Sundqvist, G. (2016) *How To Make Local Contex Matter in National Advice: Towards Adaptive Co-management in Norwegian Climate Adaption*

Wlezien, C., 2005. On the salience of political issues: The problem with 'most important problem' *Electoral Studies*, 24(4), pp.555–579.

World Commission on Environment and Development (1987), *Our Common Future*. Oxford University press.

Zimmer, Jakob & Steckel, 2015. *What motivates Vietnam to strive for a low-carbon economy? — On the drivers of climate policy in a developing country*. Energy for Sustainable Development, 24, pp.19–32.

**Picture:**

(2014) available from: http://man-in-nature.dk/eng/discourses_waterplanning/ Read 12.02.18

**News articles online:**

Finne, A., (2017) *Bodo smart city, the dot that wants to become the centre of the world*, highnorthnews.com, http://www.highnorthnews.com/bodo-smart-city-the-dot-that-wants-to-become-the-center-of-the-world/(03.05.18)

Landstad, Trude(2016) Alle byer med respekt for seg selv skal bli en smart by. Men Bodø skal bli aller smartest, an.no, https://www.an.no/smart-city/bodo-2016/politikk/alle-byer-med-respekt-for-seg-selv-skal-bli-smart-city-men-bodo-skal-bli-aller-smartes/f/5-4-308875(03.05.18)

**Internett Sources:**


Bjarmann-Simonsen, Daniel. (2015) *Historiske veivalg.* Bodø, Bodø Kommune

[http://nyby.bodo.kommune.no/historiske-veivalg/category8296.html] Read: 27.09.2017

Bjartnes, Anders. (12 november 2015) *«Det grønne skiftet»*[ https://energiogklima.no/blogg/det-gronne-skiftet/] Read 09.05.18

Bodø Kommune. (2014) *Kommuneplan 2014-2026.* Bodø, Bodø kommune.

[http://bodo.kommune.no/getfile.php/Borgerportalen/Samfunn%2C%20næring%20og%20politikk/Kommuneplan%20og%20samfunnsdel/Bilder/KommPlan%20END%20LQ.pdf]. Read: 18.10.2018

Bodø Kommune(2015) *Samarbeidsavtale -Politisk platform 2015-2019* [http://bodo.kommune.no/getfile.php/Borgerportalen/Bilder/Artikkelbilder/2013/09September/Avtale.pdf] Read: 18.04.2018

Bryhni, Inge & Olerud, Kåre. (2014). *Klimagasser*. I Store norske leksikon. [https://snl.no/klimagasser] Read: 27.09.2017

Etikkom.no(2016*) Forskningsetiske retningslinjer for samfunnsvitenskap, humaniora, juss og teologi* [https://www.etikkom.no/forskningsetiske-retningslinjer/Samfunnsvitenskap-jus-og-humaniora/] read: 03.05.18

Hofstad, Knut. (2015). *Fossilt Brensel*. I Store norske leksikon. [https://snl.no/fossilt_brensel] Read:27.09.2017

Miljødirektoratet.no (2014)*Norge på vei mot lavutslippssamfunnet.* [http://www.miljodirektoratet.no/no/Nyheter/Nyheter/2014/Oktober-2014/Norge-pa-vei-mot-lavutslippssamfunnet/] Read:10.05.2018

Regjeringen.no(2014) *Grønt skifte – klima- og miljøvennlig omstilling* [https://www.regjeringen.no/no/tema/klima-og-miljo/klima/innsiktsartikler-klima/gront-skifte/id2076832/] read: 02.04.18

Regjeringen.no (29.12.2016 ) *Parisavtalen -en ny global klimaavtale*

[https://www.regjeringen.no/no/tema/klima-og-miljo/klima/internasjonale-klimaforhandlinger/innsiktsartikler-klimaforhandlinger/forhandlingene-om-ny-klimaavtale-i-paris/id2457656/] read:14 mars 2018

Regjeringen.no (2014) *KLIMA + VEKST*, [https://www.regjeringen.no/no/aktuelt/Klima--vekst--sant/id2000805/] read: 08.04.2018.

Regjeringen.no(2014) *Om fremtidensbyer* [**https://www.regjeringen.no/no/tema/kommuner-og-regioner/by--og-stedsutvikling/framtidensbyer/om-framtidens-byer/id548028/**] Read: 03.05.2018

Shiva, Vandana (2000) *Poverty and globalisation*. BBC Reith Lecture [news.bbc.co.uk/hi/English/static/events/Reith_2000/lecture5.stm>] read: 03.05.18 (alternatively: http://www.bbc.co.uk/programmes/p00gq2rf)

SSB.no (2017) *Kommunefakta Bodø* [http://www.ssb.no/kommunefakta/bodo] Read: 27.09.17

## Attachment number 1: First draft Interview Guide TRANSFORM Project.

**Om informanten og organisasjon**

- Rolle
- Bakgrunn
- Hvordan er KEP-arbeidet organisert?

**Deres arbeid med klima- og energi i dag**

- Når kom klima/energi på den politiske agendaen?
- Er tilpasningsarbeid en del av disse planene?
- Hva er vedtatt av planer, virkemidler og tiltak
- Hva er status for Klima-og energiplanen (delplan/kommuneplan), rulert?
- Hvilke sektorer kan ligge best til rette for klimaarbeid (kommunens egen drift, stasjonær energibruk, landbruk, avfall, areal & transport)?
- Hvilke aktører er involvert (NGO-er, næringsliv, departement, fylkesmann, fylkeskommune, nabokommuner, annet regionalt samarbeid)?
- Hvem utarbeidet planen?
- Er det interkommunalt samarbeid på området? Hvordan?
- Hvilken kontakt/hva slags samarbeid har det vært med regionale og statlige aktører på området?
- Hvilke diskusjoner har det vært i kommunen (administrativt/politisk/i lokalsamfunnet) rundt sårbarhet for ekstremvær, havnivåstigning og andre klimapåkjenninger? Har dette hatt en betydning for arbeidet med utslippsreduksjoner?

**Omstilling**

- Hva legger du i begrepet omstilling?
- Vår def av omstilling – diskutere denne med informant
- Hvilke aktører er/ville være sentrale her?
- Hvordan jobber dere/ville ha jobbet opp mot ulike aktører i omstillingsarbeidet? (Aktører kan være næringsliv, befolkning, andre kommuner etc)
- Hva slags ledelsesstrategi/er har dere i kommunen og hvordan må denne/disse ev endres i et omstillingsperspektiv (mål og resultatstyring contra katalysator)?
- Hvilken rolle spiller klima i omstillingsarbeidet?

- Hvilke utslippsreduserende tiltak kan være aktuelle for omstilling innenfor ulike sektorer som du har nevnt?
- Hvilke prosesser/virkemidler o.a. er viktig for å realisere dette?
- Hvordan jobber dere med omstilling i kommunen i dag på områder nevnt over (diskusjon også om rollen kommunen ønsker å ta – samfunnsaktør)? Forskjell mellom det dere gjør og det dere oppfatter som ideelt å gjøre?
- Hva er forskjellene slik du ser det mellom omstillingstiltak og arbeid med klima og energi i dag ev også tilpasningsarbeid?

**Barrierer og mulighetsrom**

- Hva er mulighetsrommet til kommunene i klimaarbeidet/omstilling (formelt og uformelt)
- Hva oppfatter dere/du som barrierer i dagens klimaarbeid?
- Hvilke barrierer vurderer dere/du som viktige i omstillingsarbeid? (Først åpent, deretter konkretiser ved å snakke om 1) praktiske, 2) politiske 3) personlige – kultur og verdibaserte – defineres før intervju)
- Ser dere/du farer for lock-ins som fører til økte utslipp på sikt, eller hindrer nødvendig omstillingsarbeid i de tiltak/strategier/prosesser som allerede er nevnt over?
- Er det koblinger mellom barrierer på ulike nivåer (eks finansielle koblet til menneskelige ressurser)?
- Hva skal til for å løse opp de barrierene som er nevnt?

## Attachment number 2: Interview Guide Employee

-rolle

-bakgrunn

*I en norsk sammenheng innebærer de utslippskuttene som kreves for å bli et klimanøytralt samfunn en reduksjon av utslipp på mellom 40-70 % innen 2050*

-kjenner dere til noen vedtatte planer, virkemidler og tiltak på området?

-hva tenker dere disse klimakuttene innebærer for deres arbeid? (bruk av ressurser, avfall, holdningsarbeid, annet)

-hva er deres rolle i dette arbeidet? Reflekter gjerne litt rundt ditt eget ansvar i denne sammenhengen (i kraft av din rolle)

-hvordan opplever dere å kunne påvirke B. kommunes omstillingsarbeid? (Muligheter/utfordringer)

-hvilke tiltak har blitt implementer så langt, om noen?

- de tiltak som blir iverksatt hvem iverksetter disse? Og hvor nyttig har disse vært for deres arbeidsplass?

-opplever dere b. kommune som en klimabevisst kommune, begrunn gjerne svaret ditt.

## Attachment number 3:  Interview Guide Administration

-rolle

-bakgrunn

-når om klima/energi på den politiske agendaen?

-hva er vedtatt av planer, virkemidler og tiltak?

-hvilke aktører er involvert (NGO-er, næringsliv, departement, fylkesmann/kommune, annet regionalt arbeid)

-hvilken kontakt /hva slags samarbeid har det vært med regionale og statlige aktører på området?

-hva legger du i begrepet omstilling eller grønt skifte?

-hvilken rolle spiller klima i omstillingsarbeidet?

-hvilke aktører vil være sentrale her?

-hva er mulighetsrommet til kommunene i klima og omstillingsarbeidet? (formelt og uformelt)

-hva oppfatter dere som barrierer i dagens klimaarbeid?

-hva skal til for å løse de barrierene som du har nevnt?

## Attachment number 4: Interview Guide Politician

-rolle

-bakgrunn

-kan du reflektere rundt, makt, myndighet og ansvar i din rolle?

-hvilke muligheter og begrensninger (i forhold til klimaarbeidet) ligger i din rolle og ansvarsområdet?

-hvordan er klimaarbeidet organisert? (KEP)

-mener du at klimaendringer er på den politiske agendaen i Bodø, og hvilke klimaendringer spesielt?

-kjenner du til vedtatte planer, virkemidler og tiltak på dette området?

-hvem har utarbeidet disse planene, virkemidlene og tiltak på området? Hvordan samarbeider politikerne og administrasjonene på området?

-hva tenker du om det grønne skiftet og klimaomstilling i/og for Bodø?

-hva tenker du om begrepene omstilling og grønt skifte, er det noen forskjeller mellom disse begrepene? Gi gjerne eksempler.

-hva tenker du om målsetningen om å bli en nullutslipps by?

-hva må til for å nå et slikt mål?

-hvilke virkemidler vil være viktige og hvilke aktører vil være sentrale?

-hvilke begrensninger ser du i forhold til denne målsetningen?

-hvor opplever du at de politiske skillelinjene ligger kommunalt i arbeidet med klima og omstilling?

## Attachment number 5: Interview Guide Others

-rolle

-bakgrunn

-hva er eller har vært din inspirasjon/motivasjon for arbeidet? (makt/ansvar)

-hvem samarbeider du med og på hvilken måte har dette samarbeidet kommet i stand? (muligheter/begrensninger)

-i et klimaperspektiv, hva opplever du å kunne bidra med gjennom dette engasjementet?

-hvordan opplever du å kunne påvirke Bodø kommunes Klima og miljøarbeid?

-hva legger du i begrepet omstilling?

**Attachment number 6: Informed Consent**

Forespørsel om deltakelse i forskningsprosjektet;

# TRANSFORM – hvordan kan kommunene omstille seg til lavutslippssamfunnet

Stortinget vedtok i juni 2016 at Norge skal bli  karbonnøytralt samfunn innen 2030 som et skritt på veien for å nå ambisjonen om taket på 1.5 grader celsius temperaturstigning som ble vedtatt i Paris-avtalen i desember 2015.

For å klare dette meget ambisiøse målet kan vi ikke bare justere måten vi lever på. Grunnlegende endringer i samfunnet må til. Grønn omstilling og det grønne skiftet har vært mye diskutert, men vi vet fortsatt lite om hvordan vi skal få det til og hva en slik omstilling faktisk innbærer.

TRANSFORM-prosjektet skal undersøke hvordan kommunene kan omstille seg til lavutslippssamfunnet. Vi skal undersøke hvordan slike omstillingsprosesser blir forstått av kommunene, og i hvilken grad og hvordan dagens planer fanger opp spørsmålet om klimaomstilling. Målet med prosjektet er å få innsikt i mulige veier for en kommune mot grønn omstilling, og å forstå hvordan gode løsninger kan overføres mellom kommuner.

Mitt navn er Thina Mohus og jeg er masterstudent ved Nord Universitet og også en del av forskningsprosjektet TRANSFORM.

Prosjektet er et samarbeid mellom CICERO- Senter for klima forskning, Vestlandsforskning, Nord Universitet, UiT- Norges Arktiske Universitet, og med internasjonale partnere ved Linköping Universitet og NHTV Universitetet i Breda

Jeg vil med utgangspunkt i TRANSFORM prosjektet skrive min masteroppgave om Bodø Kommunes transformasjonsprosess mot en karbonnøytral by. Jeg har valgt å studere Bodø Kommune fordi det er en klimabevist kommune med ambisjoner om å bli en null-utslipps by, som en del av det pågående Smart-Bodø prosjektet.

Temaet mitt for oppgaven tar utgangspunkt i transformasjonsprossesen mot et lavutslippssamfunn, men jeg ønsker også å se nærmere på hvordan klimaendring som konsept forstås, og hvordan omstillingen legges til rett for i mindre politiske enheter som kommunene.

På bakgrunn av dette ønsker jeg å invitere deg til intervju for å få innsyn i ditt synspunkt på omstillingsprosessen som kommunen nå står ovenfor. Din deltagelse vil være som representant for din avdeling innad i kommunen, men dine tilbakemeldinger vil ikke kunne bli sporet tilbake til deg. Alle personopplysninger vil bli behandlet konfidensielt.

Opplysningene vil bli registrert på lydopptak og også i papirform, men vil bli kodet(anonymisert) og også destruert etter bruk. Dine tilbakemeldinger vil også bli anonymisert i det ferdige materialtet. Opplysningene vil kun bli behandlet av intervjuer.

Masteroppgaven skal etter planen avsluttes september 2018

Det er frivillig å delta i studien, og du kan når som helst trekke ditt samtykke uten å oppgi noen grunn.

Dersom du ønsker å delta eller har spørsmål til studien, ta kontakt med Thina Mohus/ mohustina@gmail.com, tlf 41353288 eller veileder og Professor Berit Skorstad ved Nord Universitet, Berit.skorstad@nord.no ,telefonnummer: 75 51 73 04

For mer informasjon om det pågående prosjektet: http://cicero.oslo.no/no/posts/prosjekter/transform-hvordan-kan-kommunene-omstille-seg-til-lavutslippssamfunnet

Studien er meldt til Personvernombudet for forskning, NSD - Norsk senter for forskningsdata AS.

# Samtykke til deltakelse i studien

Jeg har mottatt informasjon om studien, og er villig til å delta

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(Signert av prosjektdeltaker, dato)

## Attachment number 7: Approval from NSD

Berit Skorstad

0001 OSLO

| Vår dato: 18.10.2017 | Vår ref: 56151 / 3 / LAR | Deres dato: | Deres ref: |
|---|---|---|---|

### Tilrådning fra NSD Personvernombudet for forskning § 7-27

Personvernombudet for forskning viser til meldeskjema mottatt 24.09.2017 for prosjektet:

| | |
|---|---|
| *56151* | *Transform - hvordan kommunene kan omstille seg til lavutslippssamfunnet.* |
| *Behandlingsansvarlig* | *Nord universitet, ved institusjonens øverste leder* |
| *Daglig ansvarlig* | *Berit Skorstad* |
| *Student* | *Thina Mohus* |

#### Vurdering

Etter gjennomgang av opplysningene i meldeskjemaet og øvrig dokumentasjon finner vi at prosjektet er unntatt konsesjonsplikt og at personopplysningene som blir samlet inn i dette prosjektet er regulert av § 7-27 i personopplysningsforskriften. På den neste siden er vår vurdering av prosjektopplegget slik det er meldt til oss. Du kan nå gå i gang med å behandle personopplysninger.

#### Vilkår for vår anbefaling

Vår anbefaling forutsetter at du gjennomfører prosjektet i tråd med:

- opplysningene gitt i meldeskjemaet og øvrig dokumentasjon
- vår prosjektvurdering, se side 2
- eventuell korrespondanse med oss

#### Meld fra hvis du gjør vesentlige endringer i prosjektet

Dersom prosjektet endrer seg, kan det være nødvendig å sende inn endringsmelding. På våre nettsider finner du svar på hvilke endringer du må melde, samt endringsskjema.

#### Opplysninger om prosjektet blir lagt ut på våre nettsider og i Meldingsarkivet

Vi har lagt ut opplysninger om prosjektet på nettsidene våre. Alle våre institusjoner har også tilgang til egne prosjekter i Meldingsarkivet.

#### Vi tar kontakt om status for behandling av personopplysninger ved prosjektslutt

Ved prosjektslutt 02.09.2018 vil vi ta kontakt for å avklare status for behandlingen av personopplysninger.

*Dokumentet er elektronisk produsert og godkjent ved NSDs rutiner for elektronisk godkjenning.*

NSD – Norsk senter for forskningsdata AS Harald Hårfagres gate 29 Tel: +47-55 58 21 17 nsd@nsd.no Org.nr. 985 321 884
NSD – Norwegian Centre for Research Data NO-5007 Bergen, NORWAY Faks: +47-55 58 96 50 www.nsd.no

Se våre nettsider eller ta kontakt dersom du har spørsmål. Vi ønsker lykke til med prosjektet!

Vennlig hilsen

Marianne Høgetveit Myhren

Lasse André Raa

Kontaktperson: Lasse André Raa tlf: 55 58 20 59 / Lasse.Raa@nsd.no
Vedlegg: Prosjektvurdering
Kopi: Thina Mohus, mohustina@gmail.com