MASTER IN ENERGY, ENVIRONMENT AND SOCIETY

UNIVERSITY OF STAVANGER

16. June 2019

ARE CLIMATE CHANGE DISCOURSES IN LINE WITH THE URGENCY REQUIRED TO MEET THE 1.5°C TARGET?

A POSTSTRUCTURALIST PERSPECTIVE ON OFFICIAL NORWEGIAN CLIMATE CHANGE NARRATIVES

MASTER DEGREE IN

Energy, Environment and Society

Candidate Number: 4021

Semester: Spring 2019

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Master Thesis title: Are climate change discourses in line with the urgency required for meeting the 1,5°C target? – A poststructuralist perspective on official Norwegian climate change narratives

Subject words/key words: Narratives, discourses, Norway, IPCC, SR15, socio-technical transitions, poststructuralism, Foucault, constructivism, narrative policy analysis, climate change, Paris agreement

Pages: 106

Stavanger: 16. June. 2019

Acknowledgement

There are several people I would like to thank for contributing to making my the last few years so magnificent. Firstly, my mother and father deserve a mountain of gratitude for always encouraging to follow my own path. I would also like to thank my sister and her family for making every trip home so fun and entertaining. Related to my education, I feel that half of everything I have learned during this master has been due to the fruitful and exciting discussion with my classmates and good friends Ben, Philip, Gunnar and Jørgen. Here, I would especially like to thank Jørgen Finstad for all the enlightened conversations during our frequent seaside walks, and his helpful insight and feedback throughout the writing process. A special thanks also go out to my long-time friends Lars Erik and Simen for making many weekends so relaxing and fun, and for listening to all my rants. Lastly, but not least, I would like to thank my partner Marita for making every day so blissful and for supporting me throughout these last months.

Additionally, I owe gratitude to my supervisor and professor Oluf Langhelle for all the great and helpful feedback. Most of all, however, I would like to thank Oluf for setting up this master's course and providing a much-needed perspective(s) on the climate change issue. Hopefully, this will only be the beginning of something great and I am sure many brilliant people will do many brilliant things in the future to help solve climate change, thanks to this course.

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Abstract

The "newest" science presented in the Intergovernmental Panel on Climate Change's (IPCC) *Special Report on Global Warming of 1.5°C* show the severity of the climate change issue and the urgency required to meet it. A consensus in the climate science community agrees that a profound transition of our civilisation's energy systems and socio-economic structures must rapidly take place if the world is to meet the common goal of limiting global warming to well below 2°C – as stated in the Paris Agreement. However, increasing emissions and systemic carbon lock-in suggests that this goal might fall out of reach if urgent and significant measures are not taken within the next decade. Norway is doing especially poor in this respect with emissions still increasing despite high and outspoken ambitions for reduction. Norway's increasing emissions are mostly due to deep economic dependency on the country's petroleum industry. According to poststructuralist theory, narratives are central to both the power structures within societies and to processes of cultural, historical and socio-economic change. Thus, a narrative perspective on climate change can provide insight and valuable guidance in the transitions that must occur if we are to limit or halt global climate breakdown. The thesis assumes two different angles of inquiry, 1) what climate science and transition theory can teach us about the severity of climate change and how to meet the challenge politically and technically, and 2) what prominent official climate change narratives and policies in Norway entail. Thus, the study aims to give insight into whether Norway's climate change response is consistent with the critical reality of climate change.

The thesis adopts a narrative analysis framework to inquiry into climate change narratives from within the official institutions most relevant to the climate change issue in Norway – the Ministry of Climate and Environment and the Ministry of Petroleum and Energy. It looks at the consistency of narratives over time and the relation between the two ministries in terms of there being any apparent narrative clashes or correlations. The thesis further assesses how the various actors incorporate science into the narratives and what role the IPCC' SR15 might play. The analysis finds several dominant narratives with a varying degree of correlation between the two ministries. Most prominent are the narratives framing Norway as a 'world leader' on climate action, the narrative emphasising the importance of economic (green) growth and the narrative reconciling petroleum expansions with emission reductions by arguing the importance of replacing coal (abroad) with Norwegian gas. The thesis also finds that Norway's current and intended climate policies are not in line with meeting the target set

through the Paris Agreement for domestic emissions reduction nor with the 1,5°C target. I also argue that green growth is unfeasible for Norway as long as the petroleum sector remains the backbone of the country's economy. Green growth through decoupling the economy from carbon emissions is also shown to be highly unlikely to occur at the rate required to limit global warming to below 2°C globally. Adopting a poststructuralist perspective, I conclude that Norway will remain a climate change mitigation laggard if official policies remain subject to current narratives. Within the scope of the 1,5°C target, I argue that continued economic dependence on the petroleum sector through expansion, is not reconcilable with reaching national emission reduction goals, the goals of the Paris Agreement nor consistent with global climate change mitigation.

Are climate change discourses in line with the urgency required for meeting the 1,5°C target? – A poststructuralist perspective on official Norwegian climate change narratives

A society grows great when old men plant trees
whose shade they know they shall never sit in – Greek proverb

1. Introduction

Within the last few decades, climate change has emerged as the most pressing political issue of modern time and perhaps the biggest threat to any human civilisation throughout history. The term has become an umbrella-term for global warming, environmental degradation and an existential threat to the planet's biosphere. Climate change also implies a threat to human well-being and prosperity. What is required to meet this looming, and increasingly more apparent, disaster is a response in all levels of society. On the individual level, small and large lifestyle changes are needed, on the market level, industries and businesses must find a way to cut emissions and re-invent the way in which resources are consumed, and on the political level governments and multilateral institutions must lay the foundations of rapid socioeconomic and socio-technical change through implementing policies and defining frameworks in line with a low-emissions world – this thesis will mainly be concerned with the processes relevant to the political level. At every level, the transition needed is immense in terms of the scale and pressing in relation to the timeframe required to halt climate change. In short, what is needed to mitigate the effects of climate change is a vast and deep transition of our society. Hence, social science is increasingly concerned with the studies of transitions in the context of climate change (Geels, 2011; Grin, Rotmans, & Schot, 2010; Markard, Raven, & Truffer, 2012; Meadowcroft, 2009, 2011; Smil, 2016; Smith & Kern, 2009; Sovacool, 2016). Through the Paris Agreement, the global community has committed to this transition. The fact that almost every country has ratified the agreement shows at least some global intent for meeting the challenge of climate change. Norway has pledged to cut national emissions by 40% compared to the 1990 level, by 2030 (MCE, 2016-2017).

The question still remains, however, if the commitment to meeting the climate challenge will be enough to approach the targets set through the Paris Agreement. This question is relevant to both Norway and to the global community as a whole. This thesis will mainly be concerned with two aspects of the climate change challenge, 1) the socio-political processes on both the national and international level, relevant for the success or failure in halting global climate breakdown, and 2) the reality of the climate issue and the technical and political responses it requires. The goal is to be able to merge the knowledge gained through inquiring into these two topics in order to say something about the barriers to successfully implementing the required sociotechnical transition. For the latter, I will mainly lean on the Intergovernmental Panel on Climate Change's (IPCC) latest climate change assessment – *The Special Report on Global Warming Above 1,5°C* (SR15) (IPCC, 2018b) as it presents some of the most updated science in relation to the consequences of global warming above 1,5°C. I will also draw on the insight of transition theory, especially regarding the question of the how fast socio-technical and energy transitions can go (Smil, 2005, 2016; Sovacool, 2016; Sovacool & Geels, 2016). Concerning the inquiry into socio-political processes, I will adopt a poststructural perspective wherein narratives and discourses are seen as the drivers of societal and political change. Through the poststructuralist approach, I aim to illuminate the importance of narratives in the climate change context as they are understood to have a key role within socio-political power structures. In this perspective, politics is defined as a power struggle through discursive activities, where narratives shaped by values and goals are competing for dominance (Dreyfus & Rabinow, 2014; M. Hajer & Versteeg, 2005; Olssen, 2003; Rosenbloom, Berton, & Meadowcroft, 2016). This thesis conducts an analysis of relevant official Norwegian climate change narratives in the years around the ratification of the Paris Agreement. It argues that narratives are important for bringing about the required transitions, but that they can also act as barriers for change. Thus, the thesis aims to inquire into whether the official Norwegian narratives can be said to constrain or the encourage the required climate change action. The thesis is also concerned with whether the official Norwegian narratives echo the climate change "message" of the IPCC and if they are consistent with meeting the global warming target set in the Paris Agreement. The relation between the official Norwegian narratives and broader socioeconomic paradigms and global climate change discourse are also of interest in the thesis. Eventually, I aim to conclude as to how the narratives within the current climate change discourse and the overarching socioeconomic paradigms it is subjected to fit into the reality of the climate issue as presented

in the IPCC's SR15 (IPCC, 2018b). In other words, the thesis asks whether the narratives in question are consistent with what is required for limiting global warming to below 1.5°C.

Research Questions:

RQ1. What are the prevailing official Norwegian climate change narratives and to what degree are they consistent over time?

RQ2. How, or to what degree are the narratives influenced by new political or scientific paradigms, such as the Paris Agreement or the publication of the SR15?

RQ3. Are there (narrative) clashes between the Ministry of Climate and Environment and the Ministry of Petroleum and Energy, or is there alignment in terms of policy goals and means?

RQ4. How, and to what extent does the official Norwegian climate change narratives factor in or mention the petroleum industry?

RQ5. Can the Official Norwegian be said to echo the dominant international climate change discourse and the socioeconomic paradigms it is subjected to?

RQ6. Is Norwegian climate policies consistent with meeting the 1.5°C target and how does the petroleum industry factor into them?

RQ7. Are the official Norwegian climate change narratives in line with the 'climate reality' presented in SR15 and with meeting the 1.5°C target?

2. Background

For the purpose of contextualising the current climate change narratives, discourses and policies, it is important to understand where they came from and how they came about. Hence, I aim to summarize the history of relevant political milestones and dominant discourses that have led to the current prevailing climate change narratives in Norway. This will include a look at both the international and domestic level. Thus, the chapter will assume a historical perspective to international and national politics of climate change and - through the application of literature review - attempt to say something about where the current climate change narratives and policies in Norway came from and how they emerged. Additionally, the chapter will feature an overview of the climate change issue as presented in the IPCC's SR15, and a look into what transition theory may teach us about the pace and scope of future socio-technical transitions in order to put the current climate change narratives into context.

2.1. Sustainable development – The legacy of *Our Common Future*

By the late 1980s, climate change ventured from the science into the political sphere and initiated a period which Bodansky (2001) named the "agenda-setting phase" (Bodansky, 2001). The agenda-setting phase cumulated in 1987 with the Montreal Protocol (design to protect the ozone layer through legislative measures to phase out various substances from a range of products) (Bodansky, 2001), and the publication of the WECD report *Our Common Future* (WCED, 1987). The report was a first attempt to frame the climate change issue politically, socially and economically, through a global perspective. The WCED report was also the first to formulate and introduce the concept of Sustainable Development, which arguably represented a kind of compromise between economic growth and climate change mitigation. Sustainable development is defined in the report as an ethical theory that aims to "meet the needs of the present without compromising the ability for future generations to meet their own needs" (WCED, 1987, p. 6). The definition primarily embodies two key concepts; 1) the 'needs' essential for the world's poor (poverty) and, 2) addressing the limitations imposed by the state of technology on the environments ability to meet present and future needs (Langhelle & Ruud, 2012; WCED, 1987, p. 43). The report also called for a multilateral solution to issues of climate change as it claimed that "(p)erhaps our most urgent task today is to persuade nations of the need to return to multilateralism" (WCED, 1987:

Foreword). The WCED report arguably became the starting point for what would become an international political effort to champion the concept of sustainable development as a new pillar for societal and economic development.

Although, the Sustainable Development concept is largely understood as anthropocentric (Langhelle, 2000b, p. 303; Sneddon, Howarth, & Norgaard, 2006), it also framed climate change as a problem generated by the ways of the western world and capitalism. Thus, in the sustainable development perspective, climate change became a socioeconomic paradox, where human activity (read: economic activity) was a understood as both the root of the problem and the solution:

"*technology and social organization can be both managed and improved to make way for a new era of economic growth*" (WCED, 1987, p. 16).

The way in which the report conceptualised climate change as a problem that occurs in a nexus of various human-economical activities can be seen as the greatest legacy of *Our Common Future*. This rationale has arguably and been echoed in climate change policies and responses ever since (Wanner, 2015). The international community is still invested in the Sustainable Development paradigm; hence contemporary policymakers attempt to negotiate a compromise between economic growth and ecological destruction (Dryzek, 2013).

In Norway, the WCED report put climate change and sustainable development firmly on the political agenda – one of the reasons being that the editor, and main author, behind the report was the sitting Norwegian Prime Minister Gro Harlem Brundtland (1986-1989 and 1990-1996). Brundtland's dual role as both leader of the World Commission on Environmental and Development and Prime Minister of Norway made for a unique bond between national politics and the World Commission (Langhelle, 2000a). Brundtland brought the thinking of *Our Common Future* into the Norwegian Parliament and pledged to make Norway a pioneer in the global political efforts against climate change. The Prime Minister's inspiration was expressed politically in 1989 when Norway became the first country in the world to set a

target for stabilising CO_2 emissions. The target year of the policy was 2000 when emissions were not to have exceeded the 1989 level (Hovden & Lindseth, 2004). The CO_2 target was however abandoned in 1995 without any replacing policy or new target for domestic emission mitigation. This was partly due to the government awaiting international frameworks for emissions reduction and because increasing emissions from the petroleum industry made the goal impossible to achieve (MCE, 1995-1996).

Sustainable development became the policy goals for both the international community and for the Norwegian government (Langhelle, 2000a). However, as sustainable development increasingly became the dominant discourse and paradigm for climate change responses (Bruce, Lee, & Haites, 1996; Dryzek, 2013, p. 146; Wanner, 2015), the criticism gradually mounted, often concerned with the vagueness of the term or its hypocritical nature (Cohen, Demeritt, Robinson, & Rothman, 1998). For example, Cohen et al. (1998) argued that the words 'sustainable' in combination with 'development' were in themselves contradicting and that they were prone to subjective interpretation (Cohen et al., 1998, p. 352). Scholars also argued that these features of the sustainable development concept were part of the reason for its high popularity among policymakers and corporations as it made the narration simple to manipulate and compromises easier to achieve (Beckerman, 2007; Cohen et al., 1998; Driesen, 2008).

Dryzek (2013) have argued that the vagueness of the concept does not make it dismissible at all, to the contrary, it makes it flexible and adaptable and, as he notes;

> "*…it is not unusual for important concepts to be contested politically. Think, for example, of the word "democracy", which has at least as many meanings and definitions as does sustainable development. Part of what makes democracy interesting is this very contestation over its essence… Just as democracy is the main game in town when it comes to political organization, so sustainable development becomes the main game (though not the only game) in environmental affairs, at least global ones. Sustainable development, like democracy, is a discourse rather than a concept which can be defined with any precision*" (Dryzek, 2013, p. 149).

To summarise with some key sentiments from both sides of the argument; sustainable development might be too ambiguous to contribute to the development of efficient frameworks for accomplishing sustainability in different areas, it might, on the other hand, make it easier for some actors to put climate change on their agendas due to its market liberal leniency and ability to attain compromise. Arguably. sustainable development has also grown to become a paradigm in climate change discourse within both the political and academic setting.

2.2 The Kyoto Protocol – a market-liberal approach to climate change mitigation

The next milestone in both international and Norwegian climate policy came about in 1997, ten years after the publication of *Our Common Future*. This was the Kyoto Protocol which set out to reduce global GHG emission through various multilateral policy schemes and trading mechanisms. The Kyoto Protocol was an extension of the UN Framework Convention on Climate Change (UNFCCC/FCCC) that had been adopted at the UN Earth Summit in Rio De Janeiro in 1992. The protocol arguably engulfed the principles and philosophies of sustainable development – and thus its legacy went on (Driesen, 2008). The market-liberal (*neoliberal*[1]) approach of the Kyoto protocol trading system for one, was arguably a testament to some sustainable development rationales – or at least in some interpretations of the concept (Bernstein, 2001, p. 118; Driesen, 2008). For instance, 'cost-effectiveness' had been been a pillar of climate policy since the sustainable development concept first became expressed in international policy (Bernstein, 2001; Gullberg & Skodvin, 2011)[2]. The mechanics of the Kyoto protocol was based on 'emissions trading', joint implementation among industrial countries and Clean Development Mechanisms (CDM) for emission reduction projects in

[1] *Neoliberalism*, as defined for the purposes of this context, is a discourse wherein is held a strong belief in the free market and the roll back of the state. Beyond this, neoliberalism has grown to become a paradigm - a belief system in itself that encompasses a way to both perceive the world and act within it. It is widely understood as the main paradigm and philosophy in both politics and business today (Harvey, 2007; Hayek, 2014; McCarthy, 2004; Stevenson & Dryzek, 2012a).

[2] At this point, I would be remiss not to note that sustainable development is not in itself a neoliberal concept, in fact, it may even be argued to hold contrary features. However, it can also be interpreted as, or made to fit into, the neoliberal paradigm, hence the lament from various scholars regarding the vagueness of the concept (section 2.1).

developing countries. This implied that the industrialised nations of the west had a greater obligation to reduce emissions (Bodansky, 2001).

Additionally, the mechanisms emphasised ‘flexibility’ which ment that developed countries were expected to offset emission reduction in projects in developing countries. Driesen (2008) argues that;

> *“(t)he international embrace of emissions trading under the Kyoto Protocol suggests that emissions trading may qualify as the most widely accepted neoliberal environmental reform*” (Driesen, 2008, p. 26).

The Kyoto Protocol established three different trading programs, or ‘flexible mechanisms’ as they are referred to. These mechanisms were all market-oriented approaches to emission reduction and most notable was the CDM scheme which;

> “*authorizes developed countries, or private companies within developed countries, to purchase credits from projects in developing countries, even though developing countries have assumed no emission reduction obligations under the Kyoto Protocol. The CDM's purpose is to assist developing countries in "achieving sustainable development*” (Driesen, 2008, p. 35).

Other mechanisms facilitated the establishment of joint trading schemes between developed countries and private parties within them (UNFCCC, 1998). Norway became part of one such “trading bubble” due to its partnership with the EU. According to Hovden & Lindseth (2004), Norway had been working towards the development of an emission trading system for quite some time (Hovden & Lindseth, 2004, p. 74).

Adopting a discursive perspective, Tellmann (2012) described how a ‘tax discourse’ prominent before and around the Kyoto Protocol was effectively replaced by a ‘quota

discourse' around the end of the 20th century as an effect of the advent of the Kyoto Protocol (Tellmann, 2012). The quota discourse formulated a new strategy for climate policy in Norway throughout the period of the treaty. The quota mechanisms also became a way to reconcile the expansion of the petroleum sector with ambitions for climate change action (Tellmann, 2012).

With climate change firmly put on the international and national agendas through the sustainable development concept and the ratification of the Kyoto protocol, a period of climate change policy negotiations ensued. Hovden & Lindseth (2004) argued that the Norwegian climate change debate was divided into two main discourses – the National Action (NA) and the Thinking Globally (TG) discourses. TG may be understood as a mainly entertaining neoliberal ideals for climate change action as it emphasizes cost-effective measures for reducing CO_2 emission globally – through multilateral agreements and international cooperation. The NA discourse emphasizes domestic CO_2 reduction and entertains a more unilateral approach by setting national targets for emission reduction (Hovden & Lindseth, 2004, pp. 66-67). The authors argue that the Kyoto Protocol signified a triumph for the TG discourse in Norway and that the discourse and policy to follow, increasingly dealt with climate change matter and emission reduction through multilateral cooperation and flexible mechanisms. However, the NA discourse remained a reference point in debates for the years following the implementation of the Kyoto Protocol (Hovden & Lindseth, 2004, p. 75).

2.3 The Paris Agreement and EU-Norwegian cooperation

The Kyoto Protocol had built a foundation for a multilateral approach to climate change, wherein common goals and shared methods defined the framework for international cooperation to halt global warming and achieve sustainable development. However, as the protocol had not been broadly committed to and was ratified mainly by developed countries, further climate change negotiations beckoned with the aim of implementing a broader, global, commitment to sustainable development and climate change action. Many interested parties called for more binding targets for GHG reduction domestically but setting such target for each individual nation might prove difficult as no country have the same economic, socio-political, physical (climate, weather, geography) premises. Thus, each individual country was

to submit ‘Intended Nationally Determined Contribution’ (NDC), wherein they would state realistic but ambitious targets for emission reduction, prior to 2015 COP21 hosted by the UNFCCC in Paris. The summit resulted in the Paris Agreement, which set a goal to limit global temperature increase to well below 2°C from a pre-industrial level. The goal of adopting this strategy was to get states to become more proactively involved in climate governance and to foster inter-governmental cooperation and mutual policy learning (Tobin, Schmidt, Tosun, & Burns, 2018). In terms of sheer commitment, the Paris agreement was arguably a success, as almost every nation ratified it. However, critics argued that the pledges thus far made through the NDC will not be sufficient to reach the 2°C target (Bang, Hovi, & Skodvin, 2016; Glen P Peters et al., 2017; UNEP, 2018). One reason for this is argued to be due to the same aspect that made the implementation of the Paris Agreement so successful in the first place – namely the autonomy given to individual states to create their own targets and methods for mitigation.

Norway pledged, through its NDC, to reduce emissions by *at least 40 percent by 2030 compared to 1990 levels* (MCE, 2016-2017) and subsequently bound itself legally to this target through the ‘Climate Law’(MCE, 2016-2017). In the “climate strategy for 2030” (MCE, 2016-2017), Norway also pledged to become ‘carbon neutral’ by 2030, however, this was mainly meant to be accomplished through trading mechanisms and actively participating in reducing deforestation in developing countries. The report also emphasises how Norway’s emission cuts were to be made in close collaboration with the EU, where shared targets and methods would make the emissions reduction process more ‘efficient’ and ‘cost-effective’ for both parties (MCE, 2016-2017).

Text box 1

ETS and non-ETS

The EU-Norway relationship can largely be defined by the EU Emission Trading Scheme (ETS) which Norway has been a part of since 2008. The ETS system is based on 'cap-on-trade' principles wherein EU 'allowances' (EUAs) are the "currency" traded. One EUA equals one tonne of CO_2 equivalent. The EUAs are either allocated for free or can be auctioned off and subsequently traded between the around 11 000 industries and businesses enrolled in the Emission Trading Scheme as of 2013 (Gullberg & Aakre, 2018; MCE, 2016-2017). The ETS system mainly includes emissions from industry, power production and petroleum, and the target is a 43% emission cut from these sectors by 2030 compared to 2005 levels. However, as the Paris agreement represented a backdrop for new emission reductions ambitions to be set, the Norwegian government came to establish targets for a 40% emissions reduction in *non-ETS* sectors in their climate strategy (MCE, 2016-2017). The non-ETS sectors include emissions from transport, shipping, agriculture, building and infrastructure and some industry. The emissions from the activities of the petroleum industry are also included in the non-ETS sectors. Hence, the petroleum sector is the biggest polluter in Norway, by sector (SSB, 2019a). The emissions reduction from non-ETS sources were also to be part of the EU-Norway cooperation, which provisionally implied that Norway would get a reduction target, however, with new EU frameworks for the 2021-2030 period, this might imply being subjected to a yearly emission-budget (MCE, 2016-2017, p. 21). The Norwegian government's newly establish strategy for domestic emission reduction in the non-ETS sector can arguably be understood as a re-emergence of the National Action discourse that had, according to Hovden & Lindseth (2004), been marginalised by the Thinking Globally discourse in the wake of the Kyoto Protocol (Hovden & Lindseth, 2004). Thus, the Paris agreement and the new EU-Norwegian cooperation sparked new life into ambitions for emission cuts 'at home' as it was evident that the international menchisms that had worked in favour of Norway thus far, would not be suffienient to meet the common goals committed to through the EU relationship.

2.4 Technological responses to climate change

Throughout the entire period summarised thus far in the chapter, the Norwegian petroleum activity increased substantially, followed by a rise in domestic emissions (SSB, 2017, 2019a). This presented something of a conundrum for Norwegian policymakers as they wanted Norway to sustain their climate ambitions but at the same time keep the petroleum sector alive and prospering. Inspired by technological innovations, a *Promethean response* [3] (Dryzek, 2013) to the conundrum arguably emerged amongst policymakers and energy incumbents alike. The response was defined by a sentiment that claimed how humanity's prowess in technology-development would eventually avert the climate issues with new innovations and technological solutions. Effectively, this would allow for continued economic growth and limit societal change (Tellmann, 2012). In this context, Carbon Capture and Storage (CCS) technology came to play a central role in the energy-climate discourse in Norway throughout the period (Tjernshaugen & Langhelle, 2009). The mobilisation of CCS policy in Norway had begun rather quietly already in the mid-1990s and culminated with the establishment of Sleipner – a large scale CCS project operated by Statoil. Thus, CCS had since then been on the periphery of the political energy/environment discourse. Tjernshaugen (2011) argues, that from 2001 to 2005, 'policy windows' occurred due to the conflict between energy and climate policy that made it possible for policy entrepreneurs to form governmental support for CCS. According to Tjernshaugen, this would not have come to pass had it not been for the previous debates and efforts regarding CCS that helped build the expertise that the occurring CCS-optimism and focus were found upon (Tjernshaugen, 2011, p. 240). The growing CCS support was also inspired by the 'gas argument' which maintained that Norwegian gas played a key role in contributing to global emission reduction, as it could help other European countries phase out the coal, by replacing it with imported natural gas from Norway. This was also one of the arguments for the growing natural gas production in Norway since the beginning of the 1990s (Tellmann, 2012). In the struggle between climate concern and petroleum production, CCS – as a compromise between the two – could make for a 'political glue' that made petroleum activities politically feasible, even from a sustainability perspective (Tjernshaugen & Langhelle, 2009).

[3] A *Promethian response*, or Promethian discourse refers to a denial of limits to what can be achived by humanity, especially in terms of technological development and ingenuity. In a Promethian perspective, humans thus have the ability to solve any problem – including environmental ones. The name comes from the Greek god Prometheus who stole fire from Zeus and gave it to the humans by which they gained the ability to vastly manipulate the world (Dryzek, 2013, pp. 52-71). Promethian discourse can also be seen as a extremely anthropocentric way to view the world, and nature.

2.5 The urgency and severity of climate change: a look at the IPCC SR15 special report

For the last two sections of the chapter, I will abandon the historical perspective thus far assumed, and adopt a method similar to 'content analysis' in addition to a literature review. In the first section, I aim to describe the core message of the SR15 and summarise the most relevant information for the context and topic of the thesis. Mainly, I intend to establish what the IPCC report can tell us about the real-world implications of the climate change issue and give insight into what the SR15 can teach us about the scale and timeframe relevant for keeping global warming below 1.5°C. The latter question, regarding the scale and timeframe, will also be central in the last section wherein I aim to give a summary of the insights of transition theory in relation how fast the required transitions can go. Ideally, these next two sections will bridge an understanding of the immenseness and complexities of the challenge ahead, which will set the context for the thesis.

The most recent report from the Intergovernmental Panel on Climate Change (IPCC) summarises the latest scientific findings within the field and presents various climate models and scenarios. Each scenario shows a different future trajectory and assumes a variety of mitigation options and transition pathways. The IPCC does not themselves make these climate scenarios, however, they represent the body in which the newest science is presented and contextualised. Initially, the report states that "(h)uman activities are estimated to have caused approximately 1.0°C of global warming above pre-industrial levels…(g)lobal warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate" (IPCC, 2018b). The report sets out to explain the impact of the planet if 1.5°C temperature were to be realised and the ramification and consequences of this global warming – as well as exploring what pathways that could prevent this outcome and what these pathways entail. This is partially to stress the significant differences between the 1.5°C and the 2°C that the Paris Agreement sets out to limit global warming to. Further, the authors describe the potential impact and risk of global warming, and the substantial difference in various factors such as sea level rise, ocean temperature and acidity, loss of ecosystem and species, loss of land mass such as inhabited island, frequency of floods and droughts, urban air pollution and other health risks, food security water supply and economic growth – between a 1.5°C and a 2°C warmer planet (IPCC, 2018b). The SR15 gives an insight into how devastating both 1.5°C and 2°C would be to our living planet. However, it also shows that 1,5°C would be

significantly less damaging than 2°C, although both would be dramatic. Below are two examples of this in relation to 1) marine land and coral reefs, and 2) poverty:

> 1) *"The risks of climate-induced impacts are projected to be higher at 2°C than those at global warming of 1.5°C (high confidence). Coral reefs, for example, are projected to decline by a further 70–90% at 1.5°C (high confidence) with larger losses (>99%) at 2ºC (very high confidence). The risk of irreversible loss of many marine and coastal ecosystems increases with global warming, especially at 2°C or more (high confidence)"* (2018b: B4.2).
>
> 2) *"Poverty and disadvantages are expected to increase in some populations as global warming increases; limiting global warming to 1.5°C, compared with 2°C, could reduce the number of people both exposed to climate-related risks and susceptible to poverty by up to several hundred million by 2050"* (2018b: B5.1).

The issue of global warming mitigation is in many ways an issue of *scale* and *time*. The sheer size of many of the technological, political, economic and infrastructural transitions that need to happen – often simultaneously – in a short amount of time for the world to be able to limit global warming to 1.5°C/2°C are staggering. For the purpose of this being an attempt to summarise the issues of climate change and convey the urgency of it, I shall give a brief overview of the most important factors that are involved in climate change mitigation. These factors are thoroughly and methodically analysing and presented in the SR15.

To limit global warming to 1.5°C above pre-industrial level, the world must achieve *net zero* emission by 2050 and have *negative emissions* (where GHG are removed from the atmosphere) by around 2070 (Rogelj et al., 2018). The IPCC present various pathways that each specifies the ways in which the world community accomplish this daunting feat. The pathways are modelled scenarios where factors such as energy efficiency, population growth, deployment of renewable energy, implementation of Carbon Dioxide Removal (CDR) and negative emission technology (NETs), afforestation, bioenergy deployment and a decline in global fossil fuel dependency and consumption interact in varying degree to eventually halt global warming (Berg & Lidskog, 2018; Rogelj et al., 2018). It is, however, the scale and pace in which all these factors will have to come about that make the 1.5°C/2°C targets seem so unachievable. Most notably is the scale of which CCS and other CDR

technologies/measures must be implemented, in addition to a large growth in renewables and decline in fossil fuels, according to *most* modelled scenarios consistent with limiting global warming below 1.5°C (Rogelj et al., 2018). Considering the median capacity of CCS across 44 mitigation scenarios that reach the 1.5°C target, almost one billion tonnes of CO_2 has to be absorbed yearly from 2030 (0.9746 $GtCO_2$/yr). Additionally, the technology must grow ten-fold by 2050, as it must capture just shy of 10 billion tonnes CO_2 yearly (9.862 GtC=2/yr) from then. Finally, by 2100, CCS has to account for over 16 billion tonnes of carbon sequestration each year (16.228 $GtCO_2$/yr) (Rogelj et al., 2018). This is a staggering growth from the approximate 30-40 million tonnes of CO_2 sequestered by 18 large-scale CCS facilities operating globally today (GCCSI, 2019), with 15 more planned to be operational by 2030 – which could increase total capacity ,with another 60 million tonnes maximum (Gaurina-Međimurec & Mavar, 2019; GCCSI, 2017). This is a potential CCS capacity of around, but probably less than, 100 million tonnes in 2030 – that is significantly less than the 1000 million tonnes in the SR15 scenarios consistent with the 1.5°C target. Thus, the SR15 scenarios indicate that there must be a huge ramp-up of CCS globally as the scenarios with the highest amount of CCS include as many as 4000 facilities in total by 2030 (Glen P Peters et al., 2017). Considering how the oil industry needed over one hundred years to get to its current size and that *the CCS industry presumably has to become 2 to 4 times larger than the current oil industry by 2050* (Mac Dowell, Fennell, Shah, & Maitland, 2017, p. 244) the levels of CCS in the IPCC scenarios seem highly unrealistic. This becomes even more evident if one considers that a large-scale CCS facility takes up to ten years to go from planning to full operation, consequently leaving a lot of planning and development of CCS facilities to be done in 2019 and beyond if the levels indicated in the scenarios are to be met.

According to the scenarios consistent with reaching the 1.5°C target, emission reduction is mainly achieved – and thus global warming is halted - with negative emission technology (IPCC, 2018b). The emission trajectories of the scenarios consistent with 1.5°C generally assert that we reach net-zero emission by mid-century and spend the next half of the century removing GHG from the atmosphere as well stopping it from ever entering it with end-of-pipe solutions such as CCS. Scepticism and pessimism towards the feasibility of these narratives are not uncommon amongst experts, whom emphasise the immaturity and, in many cases, the nonexistence of these 'technological messiahs' (Burns & Nicholson, 2017; Mac Dowell et al., 2017; Glen P Peters et al., 2017). Another issue regarding CDR is those presented when

considering the large role of BECCS (Bioenergy with CCS) the SR15 mitigation scenarios for 1.5°C. A BECCS system is designed to convert large amounts of biomass into liquid biofuels through a combustion process, the system is connected to a carbon capture method and the produced carbon is deposited and stored underground – if not used in the production of petrochemicals etc. The main issue with BEECS however, is its substantial reliance on biomass - often in the form of trees. Thus, a concern with sustainability is raised as BECCS-programs would demand large fertile land and consequently compete with food production for a growing global human population (Burns & Nicholson, 2017). Another obvious issue with putting much stock in BECCS as a climate mitigating solution is the immaturity of the technology as "large-scale deployment of BECCS to combat climate change remains largely theoretical, with only 15 pilot plants and 1 commercial plant currently in operation" (Burns & Nicholson, 2017, p. 529).

The insight gained through this look into the SR15 report does not inspire confidence in halting global warming at 1.5°C above the pre-industrial level. In summary, the scenarios that achieve this feat are based upon a Promethean attitude to human ingenuity and technological development but seem to fail to accurately account for the scale and pace in which these technological transitions has to take place. No one can predict the future, of course, but the sheer enormity of these transitions suggested in these narratives seems to defy logic. As mentioned, there are several other factors involved in the 1.5°C. Generally, they assume a median considerable decline in energy demand (-17 to-39% by 2030) as a result of improved energy efficiency, increase in implementation of renewable energy (70-85% of electricity in 2050) and nuclear energy (from a 2% share of total energy in 2020 to 4.5 % in 2050) and a steep decline in fossil fuels (from 82% share of total energy in 2020 to 32% in 2050) – fossil fuels are also substantially combined with CCS, as we have seen (Rogelj et al., 2018, p. 132). However, without the unprecedented ascent of CDR mentioned above, these factors would not be enough to come close to limiting global warming to 1.5°C above pre-industrial level – leaving the task at hand as good as insurmountable.

2.6 Transitions – how fast can they occur?

As mentioned earlier, this section will deal with the questions regarding the scale and pace of transitions through a look at transition theory. It will mainly be concerned with introducing the concept of transitions and the fundamentals of transition theory, as well as a look at the scholarly debate regarding the potential pace and scale of future transitions. However, it will also include a brief overview of the Multi-Level-Perspective (MLP) framework for analysing and describing socio-technical transitions (Geels, 2011; Geels & Schot, 2007). The reason for including the MLP is to show the complexities of the socio-technical system, how they may operate and what forces may drive change within it. The goal of this section is thus to acquaint the reader with insight into the complex nature socio-technical transitions and the conflicting attitudes within transitions studies regarding the potential pace and scale of sustainable transitions.

As there is a fundamental understanding that the climate issue is borne of our own systems and ways of life, an acceptance of some form of transition away from these ways seems to have emerged. Thus, within social science, the study of various forms of transition weigh heavy within the literature and often represents the theoretical approach to the inquiry within the climate-environment-economy-energy-sustainability nexus [4]. Transitions are understood as "processes of structural change in major societal subsystems. They involve a shift in the dominant 'rules of the game', a transformation of established technologies and societal practices, movement from one dynamic equilibrium to another—typically stretching over several generations (25– 50 years)" (Meadowcroft, 2009, p. 324). In relation to the present climate issues, the concept of 'sustainable transitions' has emerged. Within transition literature, these sustainable transitions are separated with historical transitions by a variety of characteristics. Firstly, they are 'goal oriented' in relation to addressing environmental problems rather than being 'emergent' – or more arbitrary and driven by entrepreneurs exploring commercial opportunities. Thus, the process is instigated by a drive for an outcome that serves a "common good" rather than individual actors' commercial gain (Geels, 2011, p. 25). Hence (secondly), sustainable transitions do not offer obvious 'user benefits' and it is therefore "unlikely that environmental innovations will be able to replace existing systems

[4] (See for example: Geels et al, 2016; Geels, 2011; Geels & Schot, 2007; Kern & Rogge, 2016; Markard et al., 2012; Osunmuyiwa, Biermann, & Kalfagianni, 2017; Rosenbloom et al., 2016; Smil, 2005; Sovacool, 2016; Verbong, Geels, & Raven, 2008).

without changes in economic systems (e.g., taxes, subsidies, regulatory frameworks). These changes will require changes in policies, which entails politics and power struggles because vested interests will try to resist such changes" (Geels, 2011, p. 25). A third characteristic relate how powerful incumbent actors (e.g. car manufacturers, electric utilities, oil companies, food processing companies, supermarkets) might be both key to, and obstruct breakthroughs in environmental innovations as they occupy the "empirical domains where sustainability transitions are most needed, such as transport, energy and agri-food" (Geels, 2011, p. 25). Considering these characteristics, Geels (2011) argues that sustainable transitions thus entail an interaction between "technology, policy/power/politics, economics/business/markets, and culture/discourse/public opinion " (Geels, 2011, p. 25) which would encourage an inquiry into the multi-dimensional and complex nature of such transitions.

In line with the problem definition and perspective of this thesis I am mostly concerned with what transition theory can give insight to in terms of the *pace* and *scale* of transitions – and the feasibility they might imply for a fast transition on a global scale. In this context, transition theory is highly relevant to understand what the scope of the task ahead implies, and how this is interpreted in Norwegian discourses. Do the prevailing official Norwegian climate narratives embrace the scope of the transition that must come if the country is to reach the targets they politically aim to reach? Does the logic of the narratives align with the logic and logistics of the issue? Additionally, as Sovacool & Geels (2016) notes, the language that is used to describe transition might help "shape how energy system users, investors, operators, builders and financiers frame energy problems and also envision future pathways for change" (2016, p. 236). This highlights the importance of having a policy discourse that is in line with its central issue.

The question of 'how fast it can go?' is one of a contested nature within transitions studies and the centre-point of a debate spearheaded by Smil (2016) and Sovacool (2016; 2016). Hence, the question may not cede a clear answer, but there is valuable insight into the nature of transitions found in the debate. In his 2016 article, Sovacool "challenges a 'conventional truth' in the field of transition studies: that transitions take at least 30–50 years, if not centuries as some historical examples show" (Kern & Rogge, 2016, p. 13). Sovacool's paper is in many ways a reply and criticism of Smil's (2016) article where he uses historical

examples to argue for the slow pace of energy transitions. Smil (2016) dubs the idea of a rapid energy transition as "wishful thinking" (Smil, 2016, 194) and goes on to present 12 points, based on historical transitions, to exemplify his argument - which is summarised thus:

> "*We now have a truly global energy supply system relying overwhelmingly (~85% in 2015) on fossil fuels. Replacing it by new arrangements based on (mostly liquid) biofuels and intermittent (mostly wind and solar) electricity generation is—even after ignoring all environmental and social problems associated with the requisite up-scaling of biofuel production, and all technical challenges associated with mass-scale reliance of generating electricity with low capacity factors—a task that will necessarily occupy us for generations to come*" (Smil, 2016, p. 196).

Sovacool (2016) claims, however, that the potential for a faster transition into a decarbonized energy system is feasible if the political will and know-how were to be in place. Kern & Rogge (2016) similarly argue that "at the heart of the pace of low carbon energy transitions is firm political commitment at all levels of governance" (Kern & Rogge, 2016, p. 16) and thus proclaim that strong political determination is the only way a socio-technical transition of this scale can take place within the timeframe needed to hope to halt dramatic climate change. Sovacool (2016) also notes how historical transitions have not been governed and therefore adhere to different mechanism which could both accelerate the pace and affect scale (Sovacool, 2016). For example, the international arena for political cooperation and the existence of a truly global market (which have never existed on the scale of the globalised world of today), can create feedback mechanisms that benefit a global low-carbon transition. Kern & Rogge (2016) argue that the Paris Agreement is a testament to a political paradigm shift that "has the potential to significantly accelerate the decarbonisation of the global energy system" (Kern & Rogge, 2016, p. 16). Scholars also argue that – in contrast to historical transition – the current energy system is capable of a rapid transition as replacement technology is already tested, proved and affordable. The system also occupy sophisticated infrastructure, know-how and transportation which arguably make for a swift transition, relative to that of historical energy systems and transitions (Bromley, 2016; Kern & Rogge, 2016; Sovacool, 2016). Nevertheless, sustainable transitions are still dependent on frameworks and incentives that make them beneficial for actors to undertake (within the

current economic paradigm). Thus, it seems that the only way for a relatively rapid transition to occur is through political determination and steering. However, are socio-technical transitions easily steered, or is this another example of the 'wishful thinking' Smil (2016) have alluded to?

Politics play a key role in the accomplishment of these socio-technical transitions. According to Meadowcroft (2011), politics is to be understood as "the constant companion of socio-technical transitions, serving alternatively (and often simultaneously) as context, arena, obstacle, enabler, arbiter, and manager of repercussions" (Meadowcroft, 2011, p. 71). He also notes that politics does not merely include the behaviour of political actors, but also those of all actors within a coalition, including those outside of the political setting. This alludes to a rather complex political system and where a vast variety of actors struggle to gain dominance through discursive mechanisms and other intricate systems wherein actors are to coexist, cooperate and compete (Dryzek, 2013). However, politics alone is not the 'driver' of transitions, and Geels (2011) points out that "(t)here is no single 'cause' or driver. Instead, there are processes in multiple dimensions and at different levels which link up with, and reinforce, each other ('circular causality')" (F. Geels, 2011, p. 29). In other words, Geels (2011) find, with his MLP framework, that socio-technical transitions happen as a result of interactions between processes on different levels within the socio-technical system's 'hierarchy'. These three levels are understood as analytical concepts that can help to explain how systems work and change. Thus, the MLP is primarily and heuristic tool (Kuzemko, Lockwood, Mitchell, & Hoggett, 2016, p. 97). Below, I present a brief description of the three levels featuring in the MLP framework:

1) the *regime* level account for the 'stability' and 'deep structures' of the system and refers to the "semi-coherent set of rules that orient and coordinate the activities of the social groups that reproduce the various elements of socio-technical systems" (Geels, 2011, p. 27). It also makes up a 'paradigm' wherein shared cognitive routines, schemas, core beliefs, institutional and lifestyle practises and competence make up the regime 'rules' (Geels, 2011, p. 27). The regime also includes the incumbent actors, mechanisms and infrastructures within the system.

2) The *niche* level contains novelty actors that pursue a place in the regime or aim to replace the regime. Niche actors work on "radical innovations that deviate from existing regimes" and are thus important to transitions as they "provide the seed of systemic change" (Geels, 2011, p. 27). In sustainable transitions, niches are often represented by renewable energy actors that pursue a larger share of the market and the energy system through working in coalition and gaining public acceptance and legitimacy.
3) The *socio-technical landscape* constitutes the "wider context, which influences niche and regime dynamics" and encompass "not only the technical and material backdrop that sustains society but also includes demographical trends, political ideologies, societal values, and macro-economic patterns" (2011, p. 28). The landscape level is slow to change and is also generally not influenced by the regime or the niche. However, landscape development put pressure on the regime which in turn may create windows of opportunities for niches to capitalise on. Some scholars argue that politics generally takes place within the exogenous landscape level (Kuzemko et al., 2016; Rosenbloom et al., 2016). In other words, the landscape embodies the cultural, economic, political and environmental context that impinges on the regime and niche level (Rosenbloom et al., 2016, p. 1276), as well as ontological and epistemological axioms that may shape various cognitive assumptions within the system.

Based on the analytical insight the MLP gives into the subject, socio-technical transitions arguably occur through a process of complex socio-economic, cultural and political mechanisms where a sundry of actors provide the process with the wills and schemes of either powerful incumbents or struggling niches. In essence, this seemingly makes for a somewhat 'messy' process which is not easily steered, although there are many actors who attempt to do so (Kuzemko et al., 2016). Additionally, socio-technical systems might be even more rigid and are often prone to 'lock-in' and interdependency as they become entrenched in other systems and grand encompassing structures. An example of this is how the carbon-intensive fossil fuel driven systems have become inter-linked and, in some way, come to constitute one large system instead of many small ones (Kuzemko et al., 2016, p. 97). The combustion engine-based transport system, for example, is dependent on the fossil fuel extracting (energy) actors, who again rely on the transport regime. These synergic relationships can make it even more difficult for niches to penetrate the regime level.

Interestingly, Geels' MLP has been readily criticised for downplaying the role of politics in socio-technical transitions (Genus & Coles, 2008; Meadowcroft, 2011; Osunmuyiwa et al., 2017). As the MLP has become one of the most widely used frameworks in transitions studies, this perceived lack of a proper role of politics has contributed to the volume of literature on politics in transitions (Kuzemko et al., 2016; Meadowcroft, 2009, 2011). I hope that this thesis can contribute to further explain the role of politics within transitions. At least, I hope that the thesis eventually will clearly communicate the immenseness of the challenge that so many powerful institutions and policymakers are criticised for taking too lightly. By mapping out how complex the problem is and how deeply we are entrenched in the system that wrought it, and couple that with an understanding of how difficult and protracted a transition might prove, I aim to stress the importance of swift political action – as we have seen how political determination is one of the key drivers of transitions. Thus, an analysis of the current climate change narratives becomes highly interesting, in terms of the question into there being any provable mobilisation in the direction of 'political determination' – or if there is just 'empty rhetoric'. Ideally, from an environmental perspective, the narratives that the SR15 provide – which tells of a dire situation and calls for immediate action – should have a visible effect on official Norwegian climate discourses in the way that they inspire mobilisation towards solving the problem at the root. To paraphrase the young environmentalist Greta Thunberg, 'if you see that your house is on fire, you would not just stand there and be consumed by the flames…you act'.

3. Theory

Before I embark upon the analysis, however, I will present the theoretical backdrop and philosophical axioms that will be assumed throughout the thesis. These will be presented in a collection of different, but related theories hailing from the constructivist and poststructuralist perspectives. I hope this upcoming collection of theoretical approaches can provide a somewhat more holistic picture of the climate change conundrum as the varied theoretical foundation should deal with the different angles that the research question yield. Mainly, I will employ a *discourse* approach, largely based on the writing of Hajer (2005; 1995) and supplemented by Dryzek (2013). However, I shall also adopt the perspectives of narrative theories to establish some understanding on various implications and factors of the role of language and communication in the climate/policy setting – as exemplified by Veland et al. (2018) and McBeth (2005, 2007). I also include a theory explaining the role in which experts can play in shaping narratives and discourses and how expert induced discourses might end up contributing policies and political outcomes (Haas, 1992; Tellmann, 2012). Initially, however, I will introduce the philosophical point-of-departure and assumptions relevant to the thesis.

3.1 Social constructivism and poststructuralism – the philosophical foundations for the theoretical approach

There are some ontological and epistemological assumptions made throughout this thesis, mainly hailing from a *social constructivist* and *poststructuralist* perspectives. The constructivist philosophy presumes a contextual and situated disposition of human being and learning – or in other words, it assumes that individuals see the world relative to the context and situation they inhabit and are thus prone to adhere to the boundaries of that context (Zembylas, 2005). All learning and knowledge thus come from a rather limited perspective. Through the social constructivist perspective, I also assume that human societies, ideas and societal changes exist within socially constructed "bubbles" wherein individuals interact through discourses and other relational and cognitive activities. Hence, I argue the ultimate difference between "man and beast" – humans and other animals – to be defined by our ability to mass communicate and tell stories, stories that become idea that structure entire societies in unison with other equally complex stories (phenomena such as democracy and *money* etc. are all examples of stories that have eventually come to manifest themselves as pillars of our civilisation – if everyone woke up tomorrow believing that a 100 dollar bill -

which is physically just a piece of paper - was not worth anything, the economic structures of society would collapse instantly. This is the power that stories hold). Thus, narratives are in many ways what allows us to create such complex civilisation again and again – each civilisation substantially different than the next. Therefore, understanding these narratives – built through various inter-relational and socially constructed phenomena – is important if one aims to be able to solve the problems that civilisation has brought upon itself. In relation to the topic of this thesis, constructivists emphasise how "politics is driven by the meanings that actors attach to their actions and their context" (Marsh & Furlong, 2002, pp. 4-5). Thus, politics is understood as a discursive struggle between various actors, who act in accordance with their socially constructed ideas, knowledge beliefs and principles.

More central to the philosophical point-of-departure assumed for the analysis and discussion of the thesis, however, are the poststructural perspective inspired by Foucauldian thinking and further associated with Derrida (Olssen, 2003). Poststruructuralists see individuals as subject to encompassing systems and structures. In contrast to liberalist beliefs that see 'the individual' as the principal unit of action (in social processes), poststructuralists understand individuals as mostly creations of the discourses they move within, since much of what makes up "an individual" – such as beliefs, ideas, (situated) knowledge, norms etc. – are socially constructed through discourses and historically conditioned narratives (M. Hajer & Versteeg, 2005; Stevenson & Dryzek, 2012a). The poststructuralist perspective will be further elaborated upon is coming sections. Evidently, there are many similarities between poststructuralism and social constructivism, and both stand as pillars in the theories presented below.

3.2 Discourses and coalitions

It is important to separate the everyday-use and definition of the word 'Discourse' which is more a less a synonym for 'debate' or 'discussion', with the analytical 'Discourse' used in various strands of social science. According to Hajer & Versteeg (2013), a 'Discourse' in the latter – analytical – context is defined as "an ensemble of ideas, concepts and categories through which meaning is given to social and physical phenomena, and which is produced and reproduced through an identifiable set of practices. The 'discussion', in other words, is

the object of analysis; discourse analysis sets out to trace a particular narrative regularity that can be found in discussions or debates… Discourse analysis illuminates a particular discursive structure, that might not be immediately obvious to the people that contribute to the debate" (M. Hajer & Versteeg, 2005, pp. 175-176). A discourse can also be understood as a shared way to view the world, dictated by how language, culture, norms, belief systems and historical development interplay in creating a context wherein individuals coexist. As the poststructuralist features of discourse theory testament to, a discourse analysis takes a critical position towards 'truth' and 'knowledge' and emphasises how knowledge is mainly constructed socially, and truth is not objective but that there exist multiple socially constructed realities wherein individuals interact in a discursive, social and cognitive way (M. Hajer & Versteeg, 2005). Discourses are also in themselves political commodities and are bound to political practices and power in the way that they condition the prescription on values to those subject to them, which may result in a political outcome – especially in the democratic model (Dryzek, 2013; Foucault, 1980). Thus, through discourses, ideas, beliefs, biases, language and knowledge can coordinate and generate policy outcomes, if the narratives within the discourse rise high enough on the political agenda. In this respect, Dryzek (2013) holds that various environmental policies have been coordinated within the sustainable development discourse, and intertwined with dominant capitalist-economic structures to form some of the political responses to environmental degradation from the international community, implemented thus far (Dryzek, 2013, pp. 9-11, 19-21). Thus, sustainable development represents the relative success of an environmental discourse in creating political mobilisation.

In the context of climate change, sustainability and environmental issues, a discourse analysis is an ideal analytical tool and will contribute to stimulating fruitful discussion on the topic. The complexities, multifaceted nature and intricacy that these themes entail makes for a rather messy portfolio of perceived causes and preferred paths-of-action to mitigate the issues related to climate change (M. Hajer & Versteeg, 2005). A discursive analytical approach to an environment-policy inquiry will give the researcher insight into political mechanisms, partially through revealing the role of language in politics and the embeddedness of language in political practices (M. Hajer & Versteeg, 2005, pp. 176-177). However, discourses do not always – or often – effect policy and governments in a direct way, *but* indirectly through becoming embodied in institutions thus shaping "informal understandings that provide the

context for social interaction, on par with formal institutional rule" (Dryzek, 2013, p. 20). In other words, discourses may influence the way in which institutions perceive and respond to issues – for example how a political institution respond to environmental issues. Again, the sustainable development discourse can be used as an example in the way it coordinated multilateral responses to environmental questions and sustainability matters through institutions such as the UNFCCC. The UNFCCC as the major political body for dealing with climate change internationally, and has, since adopting sustainable development as its 'doctrine', been a representative for the rhetoric surrounding the topic – exemplified by trending terms such as 'green growth', 'sustainability', 'market solutions' and 'international cooperation' (Dryzek, 2013; Stevenson & Dryzek, 2012b). Additionally, Eriksen et al. (2015) argue how the UNFCCC "have helped shape which kinds of knowledge is considered authoritative and of universal relevance to climate change response" (Eriksen, Nightingale, & Eakin, 2015, p. 528).

As aforementioned, the strength of discourse analyses lies partially in the emphasis put on language as an important element in social phenomena and politics. However, there seems to be a lack of emphasis on the role that *actors* play in conventional discourse analysis – which may weaken it as an approach to political inquiry. Yet, there exist supplement perspectives within discourse theory, that to a greater extent implement the role of actors in its analysis. *Discourse coalitions* serve to this end and is a key concept in Hajer's discursive approach to environmental policy. The discourse coalition concept assumes that;

> "*in any policy field there are different coalitions competing for policy influence of which one is normally dominant. What glues the coalition together is the use of a shared discourse. The framework is used to analyse how discourse coalitions form around shared storylines*" (Kern & Rogge, 2018, p. 108).

Discourse coalitions are one of several theories that offer a methodological approach to the study of narratives in political change. Coupled with the constructivist and poststructuralist assumption that narratives play an important role in political change, the discourse coalition framework can ascertain knowledge into political change through an analysis of collected

storylines from a variety of sources such as speeches, interviews, (government) document and whitepapers, etc. (Smith & Kern, 2009). There are several examples of research that have adopted Hajer's framework to inquire into various tales of transitions and political change. Smith and Kern (2009) for example, argues that a prevailing storyline for transition management ideas in Dutch environmental policy was co-developed within a coalition of academics, policymakers and consultants. The authors conclude that the storyline was successful due to its malleable nature and the fact that it did not directly challenge the status quo (Smith & Kern, 2009, pp. 94-95). Similarly, Bosman et al. (2014) adopt features of Hajer's 'discourse coalitions' in their inquiry into the incumbent's discursive role in the Dutch energy transition and found that "decarbonization in the context of a European energy market is currently seen as the dominant driver for the energy transition, linked to discursive elements on keeping the energy supply secure and affordable" (Bosman, Loorbach, Frantzeskaki, & Pistorius, 2014: Abstract). In the Norwegian context, a coalition perspective is relevant due to the strong position of the fossil fuel industry in the political structure and the role of Norway as a zealous actor in international policy negotiations. Thus, both the fossil fuel incumbents and the international community with its expert institutions, NGOs and multilateral schemes may come to interplay in the development of Norwegian environmental policies. This may potentially create a somewhat messy context for environmental policy development with many conflicting narratives.

3.3 Foucault - Power, knowledge and scientific discourse

When assuming a poststructural approach to socio-political studies, where discourse and narratives hold a central theoretical position, it is difficult not to mention the French thinker and philosopher Michel Foucault (1926-1984). Foucault was mainly concerned with challenging the dominant narratives of the times we live in and disagreed with the dominant understanding of the concepts of, for example, 'History', 'Power' and 'Truth'. In his 1979 book entitled *Discipline and Punish: the Birth of the Prison*, Foucault questions the view of a linear history where humans have evolved from barbaric savages and torturers, who brutally and publicly executed each other while the people rejoiced, to the civilised empathic people of today due to an ethical evolution driven by human rationality (Foucault, 2012). Foucault illustrates this through his "genealogy" of the penile system which has gradually transitioned from a brutish violence-based institution to the "discipline and reformation"-based institution of our time where surveillance and "normalization" of criminals are the adopted methods in

practising penance (Dreyfus & Rabinow, 2014; Foucault, 2012). However, Foucault argues that this transition is not a result of the betterment of our species but rather the gradual shifts in cultural paradigms and epistemes which drives history forward (Dreyfus & Rabinow, 2014). Thus, he argues that our ethical codes and epistemological and ontological assumptions are rooted in history where our "truths" are shaped by dominant narratives and powerful discourses (Dreyfus & Rabinow, 2014). Foucault warns about the dangers seeing the truths of one's own time as the "best truth", as he argues this will often have been the case throughout history and for every civilization. In other words, Foucault disagrees with the rationale wherein 'history' is synonymous with 'progress'. In many ways, this logic is the premise for Foucault's thinking and the reason for his constant questioning and scrutiny of the dominant narratives of his time. Furthermore, within Foucault's perspective of history lies the assumption that *change* occurs as a result of *narrative* (and paradigmatic) *shifts* (Dreyfus & Rabinow, 2014). Adopting this perspective to climate change studies is beneficial for understanding the barriers and opportunities for the rapid changes needed for limiting global warming to under 2°C (Paschen & Ison, 2014). Paschen & and Ison (2014) argues that the 'narrative shift' perspective might be the biggest contribution of poststructuralist thinking to climate change studies.

Foucault also challenges the dominant view of 'Power' as a fundamentally authoritative, disciplinary and centralised phenomenon. To Foucault, the practice of 'normalisation' is central to power. 'Normalisation' is a form of discipline wherein individuals are restrained by their own subjectivity through the process of being trained for "normality" (Segal, 2003, p. 447). Hence, the restraints of conformity in today's societies hold significantly more power than any authoritative institutions or king according to Foucault (Foucault, 2012). In the perspective of narratives and discourses, "being normal" can be translated as living in compliance with the dominant narratives of one's time and ensuring that others do so through (unconscious) surveillance and (dis)approval of the behaviour and ideals (Segal, 2003). Thus, to Foucault, power is something unstable, arising from no one particular place, but rather from everywhere at once. In other words, Foucault's 'power' is a "cluster of relations" (Foucault in Dreyfus & Rabinow, 2014, p. 184) something that "circulates in and through the production of discourses in society" (Fraser, 1981, p. 274). Thus, to Foucault, narratives – from all directions – directly and significantly contribute to shaping the power structures within society through discourse. And the more prevailing a narrative is and the more power it holds.

Foucault's understanding of power is also based on the idea that power is constituted by accepted forms of knowledge and he thus adopts the term 'power/knowledge' (Foucault, 1980; Lemke, 2001). According to Foucault, every culture and society has a 'regime of truth' founded in the acceptance of knowledge produced by various institutions and epistemic sources such as scientific and educational institutions (Dreyfus & Rabinow, 2014; Foucault, 2012; Fraser, 1981). These 'regimes of truth' are expressed in discourses and take the form of prevailing narratives that are historically or epistemologically justified. As these narratives need to be founded on some form of proof or justification, it follows that there is some power in holding a position where one can create or justify these narratives. In our modern society, Foucault points out that it is mainly the role of science to justify the knowledge that becomes the foundations of our "truths" (Fraser, 1981). In the context of climate change and climate narratives, this is especially true. However, Foucault also points out that scientific communities are subjected to normative values in the form of scientific paradigms or epistemes (Dreyfus & Rabinow, 2014, pp. 59-62). This implies that the scientific methods and rationales of any moment in history are also formalised through a shared set of rules and assumptions held within scientific discourse. Thus, knowledge will always be produced within certain boundaries set by prevailing scientific and cultural narratives, beliefs and conceptual frameworks (Dreyfus & Rabinow, 2014, p. 60). Hence, scientific communities are often predisposed to reinforce current dominant narratives instead of challenging them.

Foucault's perspectives will feature as a central premise throughout this thesis, as I mainly aim to questions prevailing narratives and the institutions that wrought them. Looking at discourses through such a critical lens, and focusing on language, practices, power (in the Foucauldian sense) and narratives is generally what a 'Foucauldian discourse' approach entails.

3.4 Epistemic Communities

Considering the Foucauldian perspective on knowledge/power and the important role of epistemic justification of narratives that grant some institutions a form of authority, certain scientific communities are especially relevant in the climate change context. As the topic of climate change is immersed in complexities with a sundry of socio-economic uncertainties

and chemical/physical features, the job of translating it into a politically definable issue has mostly been left to the scientific community. Following Foucault's logic then, these scientific communities, from now on framed as *Epistemic communities*, hold some power in terms of contributing to the formation of narratives that in turn may form the 'regimes of truth' in society and policymaking. An *epistemic community* is defined by Haas (1992) as:

> "*a network of professionals with recognized expertise and competence in a particular domain and an authoritative claim to policy-relevant knowledge within that domain or issue-area…what bonds members of an epistemic community is their shared belief or faith in the verity and the applicability of particular forms of knowledge or specific truth*" (Haas, 1992, p. 3).

In line with the Foucauldian perspective on scientific paradigms, the professionals within an epistemic community share normative and causal beliefs that are derived from their empirical knowledge and shared the ideas of validity (Haas, 1992). They also share a common idea of how policies are formed and similar preferences for policy outcomes relating to their topic of expertise. Additionally, members of an epistemic community have common discursive practices and are generally engaged with the same narratives. The theory emphasises the influence that scientific information and learning processes have in the development of regimes and policies, especially, if there are uncertainties involved in the perception of both the origin and the abatement of a policy issue. Climate change, for example, tends to provide such uncertainties, characterises by anything from doubt in its very existence, to the urgency of the issue or which pathways to follow to mitigate the issue in the most beneficial manner. These sorts of uncertainties give rise to a demand for particular information, untainted by the interference of states or other interest groups and their intentions and unrestrained by political limitations. Epistemic communities might provide this sort of information that represents experts' interpretations of an issue, considering social and physical boundaries – this information can ideally serve as advice in complex policy matters (Haas, 1992).

The theory also describes how epistemic communities may operate within an international or transnational setting. Again, as environmental policy is to a large degree dictated the

international community and multilateral agreements, this is a highly relevant perspective in the context of this thesis. Haas (1992) theorizes how epistemic communities can affect both domestic and transnational policymaking as part of coalitions within a multilateral policy system.

> *"Members of transnational epistemic communities can influence state interests either by directly identifying them for decision makers or by illuminating the salient dimensions of an issue from which the decision makers may then deduce their interests. The decision makers in one state may, in turn, influence the interests and behaviour of other states, thereby increasing the likelihood of convergent state behaviour and international policy coordination, informed by the causal beliefs and policy preferences of the epistemic community. Similarly, epistemic communities may contribute to the creation and maintenance of social institutions that guide international behaviour. As a consequence of the continued influence of these institutions, established patterns of cooperation in a given issue-area may persist even though systemic power concentrations may no longer be sufficient to compel countries to coordinate their behaviour"* (Haas, 1992, p. 4).

From a poststructuralist perspective, epistemic communicates may be said to contribute to the dominant discourses and effectively reinforce established regimes as well as create opportunities for new ones to emerge. They could also be understood as actors within a wider discourse, actors that have the ability to form and justify strong narratives and thus contributing significantly to the discourse. In relation to the topic of this thesis, I ask in what way epistemic communities may have contributed to the Norwegian climate discourse and environmental policy?

3.5 Narrative Policy Analysis

In the next section of the chapter, I will introduce a somewhat different theoretical approach based on a narrative perspective which I will implement in the methodology of this thesis. However, one should not take for granted that narrative theory can easily be merged with policy change theories, therefore this section will include some argument that can help build the legitimacy of bringing these two theoretical approaches together.

Inquiring into policy studies from a constructivist perspective leads to questioning how meanings are developed and assigned within the policy setting. To this end, narrative studies arguably present valuable insight as narratives is in an "epistemologically privileged position in making sense of a socially constructed world" (Jones & McBeth, 2010, p. 334). Narratives can be defined in many different ways in order to fit a certain topic. Generally, they imply some form of storytelling that constitutes a common socio-psychological structure for navigating and manipulation the world and incorporate both epistemological and ontological axioms (Veland et al., 2018, p. 42). By this definition, however, the distinction between narratives and discourses seem negligible, hence defining narratives in the context of policy structures might prove more fruitful. Jones & McBeth (2010) present some characteristics that must be shown in order to define narratives within policy structures.

Firstly, the narratives need to be enmeshed in a policy *context*, meaning there has to be a policy issue or a topic for narratives to form around. Secondly, a plot has to be identified, where the relationship between characters and the setting is established along with structural causal explanations. Thirdly, is the introduction of *characters* in the narrative. Characters are actors within the policy narratives who represent various core beliefs and values. According to narrative theory, these characters occupy one of three categories: heroes (and allies), villains (and enemies) and victims. Actors may try and frame themselves and each other within these categories, thus establishing specific narrative dynamics. Finally, there must be a 'moral of the story', a desired end – a policy solution. This is what the competing narratives eventually aim to achieve – either through maintaining the status quo or by creating new opportunities for policy innovation (Jones & McBeth, 2010, pp. 340-342). Narrative analysis in policy studies focuses on the centrality of both deliberate storytelling and narrative construction, and the interconnectedness between broader narratives and various actors within the policy setting as well as policy outcomes. It assumes that narratives are used as a form of strategic problem, or policy, definition and that it aims to "portray a political problem so that one's favored course of action appears to be in the broadest public interest" (Mark K. McBeth, Shanahan, Arnell, & Hathaway, 2007, p. 88).

What arguably makes narrative analyses within policy studies a useful supplement to discourse theory and policy change theories, lies in the constructivist idea that narratives are visible outcomes and an indication of policy beliefs. Consequently, narratives become a form of data that can be used to exemplify and demonstrate various beliefs within policy discourses (Mark K McBeth, Shanahan, & Jones, 2005). Narrative Policy Analysis (NPA) aims to show how groups within a policy system act strategically through narratives in their quest for policy influence (Mark K. McBeth et al., 2007, p. 90). McBeth and colleagues suggest a methodological approach to a narrative policy analysis, and argue how integrating it to policy change studies based on the notion of cognitive mechanism would "help to further explain policy change and the role that various groups play in promoting policy change or maintenance of the status quo" (Mark K. McBeth et al., 2007, p. 87). The methodological approach is based on the four defining features of narratives in policy structures mentioned above and aim to show how coalitions or actor groups strategically use narratives by identifying these features.

In the first step, one seeks to identify the 'winners' and 'losers' in a discursive policy setting. These can also be understood as the regime, that aims to maintain the status quo and the opposition (niche) that wants innovative policies. McBeth et al. (2007) maintain that how actors identify themselves in relation to these categories, sets up the dynamic for the discourse and places the 'characters' in relation to the policy issue. Secondly, NPA explains how 'winner' and 'loser' form narratives differently in relation to *costs and benefits*, where the losers tend to focus more on the benefits of innovative policy whilst the regime often emphasise the costs of change – economic costs of course, but also social and cultural costs that might be perceived to occur if a significant policy change where to take place. In a different way, the loser's tactic in terms of benefits is to frame the policy issue such that only a few groups are benefiting from the status quo while many are paying the cost. Thus, the aim is to try and mobilize the public to bring new actors into coalitions (Mark K. McBeth et al., 2007, pp. 91-92). Thirdly, NPA hypothesise that interest groups within the policy structure use *condensation symbols*, or "language that reduces complicated concepts into simple, manageable, or memorable forms" (Mark K. McBeth et al., 2007, p. 91). Winning groups often have less incentive to use such language as it may result in unintended negative consequences such as aggravating the opposition. However, losing groups may gain from negatively portraying the opposition and their definition of the relevant issue through the use

of condensation symbols (Mark K. McBeth et al., 2007, p. 91). The fourth tactic that McBeth and colleagues (2007) identify in relation to narratives in policy negotiations is the use of *policy surrogates*. This is a way of intentionally putting the policy issue at hand, into a larger context that generally invokes controversies by entangling them in emotionally charged debates. Such tactics might be used to diverge the debate in an advantageous direction in order to gain a competitive advantage. Policy surrogates have no specific adherence to either loser or winner groups, in general (Mark K. McBeth et al., 2007, p. 91). Lastly, and highly relevant in the context of environmental policies, are the strategies related to *scientific certainty and disagreement*. Here, science becomes the nucleus in which many of the narratives within the policy discourse revolve around. McBeth et al. (2007) argue that winning groups tend to define the policy issue in terms of scientific certainty, whilst the losing groups attack the winning groups by presenting scientific disagreement so to open up the issue for continued debate (Mark K. McBeth et al., 2007, p. 92). Thus, communicating science becomes a key part of policy negotiation and competition as different groups attempt to demobilise the opposition by invoking the language of science. Nie (2003) notes that political actors frequently "frame value and interest-based political conflict as scientific ones" (Nie, 2003, p. 323) and that issues of environmental policy increasingly become disputes over science.

3.6 Answering the research questions

The collection of theories described above will be the foundation that allows for the research questions to be answered and I believe that together the theories will cover all perspectives necessary to sufficiently respond to them. In this last section of the chapter, I will try and clarify how, and which research question(s) are ascribed to which theory.

Firstly, Discourse theory and poststructuralist theory central role throughout the analysis and discussion, meaning it represents the most important overarching assumptions for the theoretical analytical perspectives used in order to respond to the research questions. Discourse theory can contribute to illuminating the key climate narratives in Norway through its focus on language within discourses. Thus, clarifying what the prevailing narratives are and addressing their consistency over time (RQ1) is made possible through its employment as well as questions regarding the relative change in discourse on account of the Paris

Agreement or the publication of the SR15 (RQ2). As there are several examples of in the background chapter, a discursive approach to climate policy inquiries can bring forth a historical description of policy transitions and the discursive mechanisms behind them (See for example: Bodansky, 2001; Bosman et al., 2014; Hovden & Lindseth, 2004; Smith & Kern, 2009; Tellmann, 2012). Thus, I aim to obtain similar insight as these studies show, in my thesis by the employment of discourse theory. As a final remark concerning discourse and poststructural theory, I note that as an overarching theoretical postulate, the perspective will contribute answering all the research questions in the thesis, either directly or indirectly – in collaboration with other theories.

In dealing with the role of the Paris agreement and institutions such as the IPCC, epistemic communities can be the theoretical backdrop for inquiring into these questions. Epistemic communities as a perspective is directly connected to RQ2, concerning the role of the SR15 in current and recent climate narratives in official Norway. It may also be drawn upon to answer RQ5 as epistemic communities are relevant for shaping and justifying international climate discourses and narratives.

NPA will play a key role in the methodology for data analysis in this thesis. As the thesis assumes constructivist and poststructuralist perspectives on discourses and incorporates theory that explains both the mechanics of political discourses and the role of actors within them, what was missing was a framework that could bring clarity into what the narratives entail. Thus, NPA theory can be drawn upon to effectively illuminating the relevant narratives – which would allow for conclusions to be drawn and building arguments regarding the research questions. NPA is, as shown by McBeth (2005), able to make narratives falsifiable by following certain logical steps and paying attention to factors that together form narrative patterns and make it possible to define key elements of these narratives. For the purposes of the inquiry in this thesis, doing this is a necessary first step if one aims to say anything about the nature of official Norwegian narratives. Thus, the methodology incorporates many features from the NPA, and combines them with relevant insight from other theories, such as discourse theories, hopefully creating a methodology that is able to address all the research questions.

4. Research Design and Methodology

Before embarking on the data analysis and discussion of this thesis, the methods for acquiring the knowledge needed to answer the research questions must be established, and the strategy and logic behind said methods will have to be explained. Hence, the next two sections will present the strategy and categorise the method of inquiry to be pursued, before establishing the logical and methodological approach for the analysis.

4.1 Research strategy

The methodology for this thesis mainly follows the logic of an abductive research strategy. Abductive principles are based on trying to understand and explain a (social) phenomenon through conceptual frameworks (Danermark, Ekström, Jakobsen, & Karlsson, 2002). In other words, it takes an observable phenomenon and implies general structures or universal context to them by applying theoretical knowledge. Thus, the theory becomes an essential part of the analysis. In the theory chapter above I presented a collection of theories which will serve as the conceptual lens through which the data in this thesis will be analysed. According to Blaikie (2000), abductive research strategies, first and foremost, aim to describe and understand social phenomena and social life in terms of social actors' accounts and motives (Blaikie, 2010, p. 101). Thus, an abductive perspective should also be understood to hold a constructivist position regarding the nature of the social world, meaning it incorporates the idea of a socially constructed world and holds that both knowledge (epistemology) and reality (ontology) is, to a large degree, a result of social construction (Blaikie, 2010, pp. 115-116). Most of the theory is also ideally suited for answering 'why' question; 'why does policy tend to be aligned so?', 'why does transitions take so long to occur?', 'why are we struggling to take political action on climate change?' etc.

Danermark (2002) emphasise how an abductive strategy is concerned with the structures of social phenomena, that are not directly observable but analyse cases of individual phenomena to imply something about the general structures (Danermark et al., 2002, pp. 88-89). Thus, the researcher's job is to, through the application of conceptual frameworks and theoretical insight, describe how individual events are part of a larger structure and general rules. This means, however, that there is generally no strict logical inference involved and that there are no "fixed criteria from which it is possible to assess in a definite way the validity of an

abductive conclusion" (Danermark et al., 2002, p. 80: Table 1). Hence, what an abductive approach hopes to do is to provide an understanding of given social phenomena and its relation to larger encompassing structures.

The abductive research approach in the thesis also includes elements of *induction*. In an inductive research logic, generalisations about a phenomenon are made on the basis of observations and comparisons of collected data (Danermark et al., 2002). In other words, an inductive approach aims to draw conclusions about larger structures and encompassing patterns, through a number of observations and data analysis. Similar to abductive strategies, an inductive logic alone cannot provide certainty or finally conclude something about the nature of a phenomenon, but merely provide insight and give 'plausible' conclusions. In other words, consistent findings can support a generalisation but never prove it to be true. Hence, inductive research strategy must always be regarded as being subject to revisions and further inquire may yield contrary findings (Blaikie, 2010; Danermark et al., 2002). Whilst abductive reasoning is mostly relevant for the theories to be applied throughout this thesis, the methodology partly follow a more inductive logic. The analysis in this thesis will rely on the interpretation of data which I compare, code and categorise and the conclusions I draw will be based on the insight of the various theoretical perspectives assumed.

4.2 Methodology

As alluded to in the theory chapter above, the methodology for the empirical analysis in the thesis will be based on principles and insight from several different theoretical perspectives and logical approaches. The methodology will be concerned with a narrative approach, as this will be the most suitable way to answer the research questions posed at the beginning of the thesis.

Considering validity throughout the analysis, the analytical framework I have created for mapping the relevant official Norwegian climate narratives, builds on insight from the theories mentioned above, and inspiration from previously undertaken narrative analyses (such as: Hornmoen, 2018; Hovden & Lindseth, 2004; Mark K McBeth et al., 2005;

Tellmann, 2012; Veland et al., 2018) who apply a policy discourse analysis to examine, for example, rhetoric and narratives related to Norwegian oil and gas and climate change, and McBeth (2005) who employ a Narrative Policy Analysis to successfully map policy beliefs in the Greater Yellowstone Area. The framework created for the analysis is of a qualitative nature and is arguably most suited for a small to medium amount of data (small-N to medium-N). Below I will present the logic of the framework, visualised through a table. I believe this is an effective way of structuring it and systematically deal with each analytical category. In many ways, the analytical frameworks is a form of coding, or categorisation of relevant and important aspects of a narrative and/or a discourse.

Table 1 *A framework for qualitative narrative data analysis*

Data/Source	**Framing/Problem definition**	**Character**	**Goals**	**Means**	**Science (SR15)**	**Values/Moral of the story**
Name: **Type of data:** **Author or speaker:** **Date:** **Setting/ publisher:** **Department:**	How does the author or speaker frame climate change in relation to Norwegian policy and response? How the problem is defined by the actor can give insight into the political and philosophical alignment. What topic is central to the framing: - economy? - jobs? - environment? - international relations? - trade? - energy? Establishing how the actor defines the problem is a logical point of departure for the analysis as it often points to some features of the upcoming analytical points such as goals, means and values. Effectively the framing also is a way for the actor to define the context of both the issue and its own role in it.	Where does the actor place itself and/or the eventual opposition within the discourse? Weather the actor sees itself as a 'winner'/'loser', as part of the regime or the established opposition is important to understand in the context of a discursive struggle of policies. Does the actor speak on behalf of the established 'truths' or does it attempt to oppose them?	What is the stated goal for the actor in terms of climate change in the Norwegian policy setting? And as importantly: How is this goal framed? Is the goal to 'contribute to climate change mitigation as quickly as possible'? Is it to 'secure jobs and economic growth in the process of mitigating climate change'? Or does the actor proclaim that climate change is not that important, and policy should be focused elsewhere?	With what means does the actor state that these goals are to be reached? Common tactics for climate change mitigation often involve for example: - Taxation - 'International cooperation' - flexible mechanism and emission trading - investment in renewable energy technology - investment in CCS etc. Here one may gain insight in the alignment towards politics and various established policy preferences which might speak to the urgency put on the issue by the actor.	This point aims to establish or point to how an actor might employ science in its rhetoric. The eventual references to the SR15 are especially if interest as it deals directly with the problem statement of this thesis. Does the actor refer to the SR15 or any other climate science? If so, what are the arguments that the science are meant to support? Here, I might be able to identify any direct changes in rhetoric after the SR15 publications, or at least point to the way scientific findings are uses in climate policy negotiations.	Here, the researcher attempts to summarise the insight gained from the previous analytical point to establish the actor(s) values and more general stance towards the question of climate change mitigation. This point may contribute in clarifying any data that takes such stances in an obvious manner by for example: - stating or alluding to that fighting climate change is more important than preserving the petroleum industry. or, - stating or alluding to that economic growth comes first when negotiating climate policies.

All the collected data sources in the thesis will be subject to the framework in table 1. In the framework I have incorporated traits and insight from the variety the of theories embraced in the thesis, such as the discourse theory and the notion of how actors both cooperate and struggle through the mechanism of coalition – which is represented in both the 'character' and 'framing' category, but are also assumed as a premise for all the categories of the framework and the conclusions to be drawn from the analysis. The 'value' category also incorporates some traits from discourse theory and epistemic communities, especially in relation to the actor's shared belief systems "truths". NPA also has a central role in the formulation of the methodology and the framework in table 1 is directly inspired by the logic of McBeth's articles (Jones & McBeth, 2010; Mark K. McBeth et al., 2007; Mark K McBeth et al., 2005).

The proposed analysis of each data source will ideally make it possible to map various narratives within the official Norwegian climate discourse through comparison and categorisation. It will also give a good indication of what the narratives entail. However, there are also weaknesses in the framework, most of which stem from the abductive/inductive nature of the logic. First and foremost, obtaining any final proof or 'truth' in relation to the research questions is not possible through such an approach – but it is not the point. Rather, the goal of such studies, which concerns most poststructural approaches, is that they are 'clear enough to be (proven) wrong' (Jones & McBeth, 2010), meaning that they should be falsifiable and address validity. Jones & McBeth (2010) argue that the dominant view and criticism of narratives and indeed most poststructuralist studies are that they are often immune to attempts of generalisation. In response to this sentiment, the authors suggest that a narrative analysis thus must be 'anchored in generalizable content to limit variability' (Jones & McBeth, 2010, p. 341) and argue that the categories of the NPA – which resonate in the framework in Table 1 – serve to this end. Categorising various narrative features thus, have proved to help define narrative structures and generalise on the basis of these, by for example mapping partisanship, ideology and/or core beliefs between actors and within coalitions (Jones & McBeth, 2010, p. 341). These types of generalisations can contribute to better describe, explain and predict various political processes and outcomes (Jones & McBeth, 2010, p. 346).

Considering validity and falsifiability this framework proves a logical pattern for the researcher to follow when analysing a dataset of medium size (in terms of content/number of data sources). It also arguably makes it easier to follow relevant narrative patterns and ignore those that are not relevant to the thesis or any of the research question. In summary, I argue that the chosen framework can provide a systematic and logical approach to a medium sized qualitative narrative study and make it easier for the researcher to focus on the relevant aspects of the data whilst creating a method for cataloguing, separating and grouping narratives in relation to and in comparison with one another.

5. Data and Data Analysis

The upcoming chapter deals with the data materials and the analysis of them. The data sources are mainly divided into two main types/groups, *speeches* and *official documents* (such as reports and white papers). In line with the discursive and narrative perspective in this thesis, these types of sources are ideal for mapping and describing narratives and examining climate discourses in Norway as well as illuminate some of the major actors in current and recent climate policy negotiations. Arguably, there are two major acting bodies in the Norwegian climate policy discourse and policy negotiation, the Ministry of Climate and Environment and the Ministry of Petroleum and Energy. Judging from the different offices, mandates and titles these two ministries, hold one might assume, from an environmentalist perspective at least, that their interests collide, effectively making them competing interest groups within the policy coalition system. How much or little they might align in terms of climate policy is one of the things that might be clarified through the upcoming analysis.

For structural purposes this chapter will be divided into section, each dealing with one of the categories within the analytical framework from Table 1. The sections will include a summary of what was found in each of the data sources in regard to the category and the chapter will conclude with a section in which the findings are summaries and conclusions are drawn. The summary will be partly presented in the format of Table 1, as displaying it such will arguably make for a systematic reading of the findings and simultaneously exemplify how the framework was adopted and the analysis conducted.

5.1 Data collection

The data that will feature in the analysis is, as mentioned earlier, made up of a collection of speeches, posts and comments in various forums and newspapers, and some white papers and other official government documents such as Reports to the Storting (Stortingsmeldinger) and Propositions. All the data have been collected through the Norwegian Governments public online archive and downloaded as PDF files when optional. The majority of the data sources were found through a filtered search in the government archive using the keywords 'Climate and Environment' and 'Energy' and limited to the time period of focus in this thesis, 2014-to the present. The reason for adopting 2014 as the start of the period of inquiry is twofold. Firstly, 2014 was the year the IPCC published the Fifth Assesment Report (AR5) (IPCC, 2014), making the period in focus the years between the AR5 and the SR15 and beyond. This is interesting as it might give insight into how the framing and interpretations of the different reports could have inspired different political responses. It also puts the thesis into a scientific context, which proved more relevant frames in relations to the research perspective and more relevance to the theory. Secondly, making 2014 the beginning year of the inquiry provides an opportunity to study the narratives in the phase that might be defined by negotiations building up to the Paris agreement in December 2015. This too has high relevance for the research questions and the topic of the thesis.

The searches were also filtered so to find data derived from the Ministry of Climate and Environment (MCE) and the Ministry of Petroleum and Energy (MPE). The body of data for the thesis will be made up of a total of 68 sources, consisting of 41 speeches, 23 opinion pieces or comments, and 4 white papers. The following sections will contain a summary for what was found through analysis, presented systematically by analytical category. Thus, all individual data sources will have been subjected to the scrutiny of the analytical framework at the end of this chapter, and been efficiently summarised, compared and dissected before embarking in the discussion wherein conclusions are drawn, and the research questions revisited. One last remark before I commence the analysis: most of the data sources are written in Norwegian, any direct quotation featuring in the analysis from any Norwegian source will be translated into English by the thesis' author.

5.2 Framing

The forthcoming sections will deal with the findings of the analysis, summarising each category with the aim of bringing to light the most recurring and thus key narratives in the rhetoric of the MPE and MCE. Beginning with the 'framing' category, in which I will focus on how the various speakers and authors of the data sources define the climate issue and its relation to Norway's environmental- and energy policies. Framing also includes certain keywords and core principles that the speaker or authors might emphasise with the topic of climate-related policies and measures – such as 'economic growth', job security' or adaptation' for example. This chapter will also adopt a structure that I believe to contribute to the most logical presentation of the findings and make for a tidy summary. The structure is based on dividing from the MCE and the MPE, so to better follow the trajectories of the narratives and how they might – or might not – have developed chronologically, illuminating how they may have been affected by, for example, the Paris agreement and/or the publication of the SR15 (RQ2).

Ministry of climate and environment

5.2.1 MCE - Norway: a world leader on climate change mitigation

Findings from the data analysis suggest that there some major recurring narratives articulated from the Ministry of Climate and Environment in recent years, often revolving around the Paris Agreement, conveying the sentiment of Norway as a leading nation on climate change policy, measures and international climate negotiations and multilateral cooperation. Thus, climate change is consequently framed as an issue that the Norwegian government takes very seriously (50%, of data sources, stated that climate change is severe and must be dealt with), and a political conundrum that Norway is handling in a successful manner (72% commended Norway's climate policies measures, whilst 36% stated that Norway is a world leader on climate change mitigation measures). Some even more offensive rhetoric state how the world community is lagging when it comes to climate change mitigation and meeting the common goals set in the Paris Agreement (14%). The speeches with the most commending rhetoric regarding Norway's climate policies and ambitions took place in an international or European setting, for example during Climate negotiations and talks in Bonn or at COP22 in Marrakech where previous Minister of Climate and Environment Vidar Helgesen stated that "Norway is deeply committed to the Paris Agreement" (Appendix: 30).

The analysis also found a narrative that emphasises how Norway's role as arbitrator and facilitator in international climate negotiations is also what arguably make the country a leader on climate change mitigation, and 27% specifically emphasised how climate change is first and foremost an issue to be solved with international cooperation. For example, previous Minister of Climate and Environment Tine Sundtoft stated in the Europe conference in 2015 that:

> "*Norway is recognised as one of the most progressive and ambitious countries in climate negotiations. We are continuously invited to meeting in the inner circle with important countries,*" (Appendix: 21. Translated by the author).

Furthermore, 19% of the data analysis held the Norway-EU relationship and cooperation as the key context for Norwegian climate policy, effectively framing both the government's climate strategy and policy creation in the context and capacity of to the common 2030-climate target, of 40% emission reduction, with the EU. In this narrative, some Norway-EU specific measures and policies for climate mitigation are referred to for arguing both the success and importance of a strong relationship between the two political bodies – these will be addressed later when summarizing the findings in the 'means' category.

5.2.2 MCE: Climate change mitigation with an emphasis on economic growth

33% of the data sources from the MCE emphasised the importance on assuring economic growth in climate change mitigation efforts while 30% mentioned concepts such as 'green growth', economic green growth' and/or 'sustainable growth'. In this narrative green growth and/or economic growth is framed as a premise for all climate action and it is somewhat taken for granted that economic growth is reconcilable with global climate change mitigation in line with the 1,5°C/2°C targets (30% reference either the 1,5°C or the 2°C targets). In October 2017, the government published a report on Norway's strategy for future climate and environmental policies and measures, launching 'green competitiveness' as the core principle for a transition into a low emission society (appendix: 67). The term 'green competitiveness' had, according to the data analysis, been featured some until that point, but was committed to as a key narrative after publication of the report entitled *Better growth, lower emissions – the government's strategy for green competitiveness* ((Government, 2017: Translated by the

author), being featured as a core principle in 45% of data sources from the MCE after October 2017, whilst only appearing in 10% of sources dated prior to the publication – and most of them within the same year. Thus, the data suggest that the economic growth principles that had been a major part of narratives since 2014, was effectively adopted into policy strategy with the 'green competitiveness'-report of 2017.

> "*Ambitious climate policy is, and must be, reconcilable with continued economic growth"* (Government, 2017, p. 5: Translated by the author).

The green competitiveness concept, which arguably incorporates economic growth- and green growth principles, is mainly focused on facilitating a milieu in which businesses and industry could continue to pursue capital and fiscal gain, whilst reducing GHG emissions. In other words, it is a strategy where the government's aim is to make emissions reduction and sustainable investments and measures, profitable for companies. 33% of data sources from the MCE emphasise the importance of a good government-industry relationship in this capacity, effectively arguing for the importance of various economic incentives to reduce emissions, placed on the private sector by the government.

> *"The government will facilitate such that value creation will be secured through new green workplaces, and by existing businesses' transitions to be better suited for a time of sharper climate policies and fast technological development…This strategy for green competitiveness shall contribute to give predictable frameworks for the transition into a low emission society, with high employment- and income levels"* (Government, 2017, p. 5: Translated by the author).

Considering employment, the data analysis found that job security *alone* was not a particularly strong focal point for the MCE when framing the climate challenge and Norwegian climate policies with only 5% of data sources putting the jobs and employment central to the climate issue. However, as exemplified by the quote above, employment and job security issues are often part of the broader sentiments regarding economic growth and are

often mentioned in that particular context (48% of data that incorporate the economic growth narrative mention employment or jobs).

Another assumption that often features within the economic growth narrative is that climate action can provide opportunities for Norway in terms of initiating new industries and businesses – for example within renewable energy and low emission technology – that may contribute to continued economic growth in a long-term perspective, where petroleum demand will go down. This perspective is often related to the concept of a 'green shift', which mostly refers to a transition of the private sector, facilitated by both the market and the government, into a low emission and sustainable sector, with high employment levels and income. The green shift refers to a transition for all incumbents and current industries and businesses and the establishment of new ones. 20% of the MCE data sources mention the 'green shift'. The data also suggest that there is generally a positive rhetoric regarding the green shift as an opportunity for Norway, and various sources state that Norway has a good foundation and are well suited for a green shift, often referring to the high percentage of renewable energy from hydro in the country's power system, and the comparatively high rates of education.

> "*Norway has a good foundation in a world with an increasing focus on reducing GHGs and environmental degradation. We have a highly educated and adaptable workforce and a well-functioning capital market*" (Government, 2017, p. 11: Translated by the author).

5.2.3 MCE: Adaptation – preparing for a changing climate

Climate change adaptation is also a significant narrative in the MCEs framing of the climate change issue in the period with 25% of data sources incorporating the concept and emphasising the importance of good domestic adaptation measures to meet the changes that are coming due to climate change and environmental degradation. Adaptation refers to a steered political process of working towards climate resilience through preparing for the effects of global warming such as drought, more frequent storms and heavy rain, higher temperatures and wetter winters – to name a few. In the Norwegian context, this often

includes safeguarding agriculture and industry form potential sporadic recessions and bad fiscal periods as well as developing infrastructure to be more resilient to various climate change effects such as more rain, higher humidity, more floods and landslides, higher temperatures and changing power and energy supply (Appendix: 18). Food security is also considered in the adaptation context as many important ecosystems will be under threat due to global warming and environmental degradation from human-economic activity.

> "*Everyone has a responsibility to adapt to climate change, both individuals, businesses and governments. The Ministry of Climate and Environment has the responsibility to facilitate the government's comprehensive work with climate adaptation. We have a coordinating role…The Ministry for Climate and Environment also has the responsibility for climate adaptation within our own area of responsibility such as nature-diversity. We also have an important role in building the knowledge base on climate change"* (Appendix 18: Translated by the Author).

The analysis suggests that the adaptation narrative is often directly tied to the data sources that take the most offensive position towards climate change action based on statements regarding the severity and urgency of the climate crisis. There also tend to be a higher frequency of scientific referencing in the data sources that are entertaining the adaptation perspective, than there is in most other narratives found in the data analysis.

5.2.4 MCE: International commitment, overarching narratives and the Paris Agreement

According to the data analysis, many of the climate narratives from the MCE are framed around some form of international agreement, target or overarching 'paradigm' and narratives such as presented by the Paris Agreement or the publication of the SR15. Firstly, 33% of data sources emphasise the importance of the Paris Agreement, either before it was to take place, or after. Additionally, 30% referred to the 2°C target, while 44% referred to reaching the 2030-target committed to in the Paris Agreement. The UNs Sustainable Development Goals are referred to in 17% of the MCE data, representing another reference point for framing climate change. Interestingly, the SDGs are mostly mentioned in the context of emphasising the importance of economic growth, both domestically and for developing countries and thus

the SDGs related to poverty are more heavily featured than those related to climate change and environment.

The publication of the IPCC's SR15 in October 2018 can also be said to represent a new narrative, where the urgency of climate change mitigation was more specifically defined through various storylines depicting the vast difference between global warming of 1.5°Cs versus global warming of 2°C (see section 2.6). The data analysis show how the MCE more frequently incorporated science – in the form of the SR15 – in their rhetoric after the publication. Current Minister of Climate and Environment Ola Elvestuen stated in January 2019 that:

> "*The 1.5°C report from the IPCC has changed the climate discussion…the difference between 1.5 and 2 degrees is huge…All states must increase their Paris ambitions by 2020 to respond to the risk*" (Appendix: 36: Translated by the author).

However, as not much time has passed since the publication, there was not a sufficient amount of data to track this "new" narrative in a way so to draw conclusions regarding its position in the official climate discourse. The data suggest, however, that the SR15 spurred motivation to increase climate ambitions from the MCE around the time of its publication, but it is not evident if this newfound motivation has come to fruition in policies and measures to a large degree.

Ministry of Petroleum and Energy

5.2.5 MPE: The world needs more energy

The upcoming sections will deal with the findings related to the *Ministry of Petroleum and Energy* and how climate change is framed in the context of energy and petroleum policies. These findings will be able to demonstrate whether or not there is much consistency between the narratives from the MCE and the MPE, in terms of framing, and they can show if there are any narrative clashes between the two ministries or if they seem coordinated in their climate-related rhetoric.

The analysis found that there is particularly one narrative that is dominant in the MPE with 64% of the data source explicitly framing Norway's role in the climate change conundrum in the context of future energy demand. The argument can be summarised like this: Population growth, urbanisation and a continued need for economic growth will see global energy demands rising in years to come, however, renewable energy deployment is not happening fast enough or on a grand enough scale to cover this demand. Hence, Norwegian petroleum will still be needed for decades to come.

The argument is often backed up by scientific referencing, often from the International Energy Association (IEA) stating for example how energy demand is expected to rise 30% between 2016 and 2040 (Appendix: 53). Below is an example of how the argument is often presented. This quote is from the former Minister of Petroleum and Energy Tord Lien in 2014:

> "*…(I)n every scenario, - oil and gas will remain a crucial part of the energy mix for decades to come. In my opinion, the climate debate is far too important to be clouded by simplistic assumptions about the future. Oil and gas still has a vital role securing a steady supply of energy to meet justified demands for more prosperity and economic development*" (Appendix: 37).

Arguably, there is an 'ethos-pathos-logos' structure in how the argument is presented, where science ("scenarios") produces credibility (ethos) whilst the logic of oil and gas as a steady supplier of energy demand and economic development (logos) gives the argument more weight as it ties in both the ethics related to securing prosperity (pathos) and growth. It is especially interesting to see how the rhetoric regarding the energy demand argument often build on a strong pathos, where energy security for the developing world features as the premise for the argument and means to illustrate the narrative more vividly. In these cases, energy is framed as the foundation of economic growth and the one most important factor for unlocking economic and social development in developing countries. Considering NPA theory, such rhetoric can arguably be a way of framing Norway as some form of 'hero' in as

they would directly be contributing to moving people out of poverty (Mark K McBeth et al., 2005). Simultaneously, the narrative may be said to frame both Norway and developing countries as 'loser' in the contexts as the 'negative costs' of change is alluded to. Below is an example of such framing in a quote from Tord Lien (2014):

> *"The IEA has published a special report on the energy prospects in Sub-Saharan Africa. The findings contribute with some important perspectives. In sub-Saharan Africa as a whole – about 70 percent of the population lack access to electricity in their houses. Everyday tasks, like cooking, studying, and nearly all forms of communication become much more complicated and time-consuming. For cooking, four out of five still rely on firewood, causing serious health problems. Better access to modern forms of energy is necessary to unlock the great potential for economic and social development in sub-Saharan Africa*" (Appendix: 41)

The analysis found that the 'world needs more energy' argument has been continuously featuring in the MPE rhetoric throughout the period, making it both the most prevailing narrative and one of the more consistent. It is also important to keep in mind that the narrative generally functions as an overarching premise for all the other MPE narratives that will be presented in the upcoming sections. Hence, most of the MPE narratives must be seen as interlinked with the future energy demand narrative.

5.2.6 MPE: Coal must be replaced by natural gas

Another central argument and hence recurring narrative from the MPE is based on framing coal as the 'dirtiest' energy source. 54% of the MPE data sources emphasise the importance of replacing coal with natural gas, preferably from Norway, in the world's energy mix, as coal consumption means higher emissions rates than that of natural gas. The analysis finds it evident that replacing coal with gas is one of Norway's main strategies for climate change mitigation. Below, former Minister Tord Lien states this sentiment in an EU conference in Brussels in 2015:

> "*Replacing coal with natural gas is one of the most efficient ways to reduce greenhouse gas emissions*" (Appendix: 45).

The ‘coal argument’ is often coupled with another narrative that is framing Norwegian petroleum production and activity as ‘clean’ and more ethical compared to other producer countries. The argument of Norway’s relatively low emission upstream petroleum production is often founded on the fact that the oil sector is, and have been for many years, subjected to high CO_2 taxation which arguably gives incentives to operate as sustainably and efficiently as possible. The analysis also found that in some of the data sources where Norwegian petroleum was framed as being cleaner than other, a following sentiment occurred, arguing that if Norway were to stop oil and gas production for climate reasons, other ‘worse’ producers would will Norway’s gap in the market. In light of NPA theory, Norway might be considered as a ‘hero’ in this context as the countries oil and gas effectively ‘saves the world’ from being solely dependent on “dirtier” petroleum. This would arguably have a negative effect on the climate. The narrative also tends to mention the relative success of CCS in the Norwegian petroleum sector which is and can contribute to reducing emission in the future. Former Minister Tord Lien summarised his argument - at the ONS exhibition in 2014 - regarding meeting the climate challenge with Norwegian petroleum thus:

> *“Our upstream oil and gas activities are part of the solution to these challenges. First, we need more use of natural gas, and less use of coal. Substituting coal with gas is the easiest and the most cost-effective way to reduce carbon emissions significantly in the short term. Norway contributes to this through our gas exports to Europe. Second, in order to mitigate climate change, efficient use of energy and increased deployment of new and innovative technologies will be necessary. Particularly carbon capture and storage– CCS - has the potential to make a significant contribution*” (Appendix: 39)

5.2.7 MPE: The climate challenge must be met, and CCS is key

This brings us to another recurring framing of climate change from the MPE, revolving around the importance of CCS development and Norway’s role in it. The analysis found that 25% of MPE data state both how severe the climate change issue is – and the urgency involved in tackling it – and emphasise how CCS will and must play a key role in meeting the climate challenge. The same 25% also mention the two large scale CCS operations in Norway, Sleipner and Snøhvit, that arguably places Norway as one of the leading nations on CCS. The Sleipner and Snøhvit projects are often framed as ‘an achievement’ (Appendix 43)

or ‘a success-story’ (Appendix: 44) in the climate mitigation context by members of the MPE. The CCS narrative also leans on scientific referencing and the IPCC features especially in CCS-related storylines from the MPE.

> “*The need for CCS is well documented. The latest report from the IPCC is clear on the importance of CCS. In every scenario, oil and gas will continue to play an important part of the energy mix for the foreseeable future. At the same time we need to strengthen the international commitment to reduce greenhouse gas emissions. That is exactly where CCS technologies form a vital part of the solution. We need to establish demonstration projects that are viable and will develop technology and reduce costs. Reaching the two degree scenario will be much more expensive without a broad implementation of CCS*” – State Secretary Kåre Fostervold, 2015 (Appendix: 43).

In summary then, the CCS narrative can be said to have three main sentiments: 1) Climate is a serious issue that must be tackled, 2) CCS is the key to solving it and 3), as 25% of data sources state, Norway is a world leader when it comes to CCS research and deployment.

5.2.8 MPE: Economic growth and climate change mitigation are reconcilable

In compliance with one of the major narratives of the MCE, the MPE also rely on the rationales reconciling economic growth with emission reduction. The analysis found that 35% MPE sources follow this economic growth-emission reduction narrative, however, for the MPE, it is more connected to an expanding petroleum sector and energy supply, than the green shift more relevant to the MCEs narrative. There is however compliance between the two when it comes to stating the core sentiment; Economic growth and climate change action is and must be reconcilable. The economic growth narrative has several levels. It can both emphasise economic growth domestically, through the possibilities offered by Norway’s increasing role in the European gas market or the opening of new exploration fields on the Norwegian Continental Shelf (NCS) or new low emission technology industries. I also emphasises the role of energy for global economic growth, especially in the developing world, thus contributing to poverty reduction and prosperity. In relation to the perspective on domestic economic growth *job security* and employment features continuously and 35% of all

MPE sources state the importance of creating and maintaining local jobs and complement the petroleum sector as exemplary in this capacity.

The petroleum industry is often central to economic growth and employment narrative and in 18% of the MPE data, the history of the Norwegian 'oil adventure' – depicting the domestic prosperity brought on by the ever-growing oil industry from 1969 until today – is part of the rhetoric to emphasise the role the sector has played in creating both national wealth and jobs. The analysis also finds that the 'oil adventure' is often used as a reference for arguing for the continued growth in the petroleum industry. Current Minister of Petroleum and Energy Kjell-Børge Freiberg stated his optimism regarding the future of Norwegian oil and gas at an oil and gas conference in 2018:

> "*Oil and gas is the engine that drives the Norwegian economy. I am convinced that the Norwegian (Continental) Shelf has a bright future. We have many new development projects and a broad interest in concession rounds. This will contribute to new investment opportunities and profitable workplaces in the value chain*" (Appendix: 59: Translated by the author)

Thus, the main strategy for securing continued economic growth is expanding the petroleum sector.

5.2.9 MPE: Climate action gives new opportunities for Norway

The last narrative found through the analysis of MPE data sources complies with the MCEs framing of the climate challenge as an opportunity for Norway in terms of new industries, markets and a green shift. This 'green shift' narrative is very similar to that of the MCE, the little difference being that the MPE focus more on selling gas to Europe in order to replace coal in addition to establishing new low emission industries, reducing emissions in existing industries and committing to renewable technology. 13% of MPE data support the green shift-new opportunities narrative, all of them being relatively recent, meaning after 2018. The narrative promotes a very optimistic stance regarding the future of Norway's competitiveness in the energy market, its ability to reach the climate targets with the EU and the foundation

Norway must successfully implement a green shift. 13% of MPE data were also found to argue how the hydro-rich power supply in Norway represented a head-start in terms of accomplishing a green shift.

In a government report entitled *Power for change: the energy policies towards 2030* (Appendix: 65: Translated by the author) from 2016, the MPE argued how Norway is well suited for a transition.

> "*Norway has the power to transition. The renewable energy resources and the well-functioning energy sector represent Norway's competitive edge. We will facilitate for a modern energy system and adopt measures and frameworks for transitioning markets…The task must be solved in a way that secures the most value for the society, at the lowest possible cost*" (MPE, 2015-2016, p. 7: Translated by the author).

The general optimism regarding Norway's ability to transition is shared between the MCE and MPE. Optimism is also a keyword for how the MPE tend to frame climate change in the Norwegian energy context, the analysis found and in summary, there always seems to be a silver lining for Norway – especially considering economic opportunities. Considering the NPA theory, this narrative entails a way of framing Norway as a *winner* in the climate change context, as it focuses on the benefits of change, rather than the cost (see section 3.6).

5.3 Characters

The framing section above was meant to introduce the most apparent and prevailing narratives from both the MCE and the MPE and give a description of how climate change was framed within a context relevant for each of these ministries. Going forward, I will present the findings regarding the second category in the analytical framework, 'characters'. Here, the goal is to describe how the various actors positions themselves and their narrative, what rhetoric and rhetorical strategies were used and how they saw their arguments in the context or in comparison to others. In other words, by analysing the characteristics of the narrators I hope to establish some understanding of how they see their position in the relevant discourse

and, for example, how offensive or defensive they might be in a certain context or towards different topics. It is also a way to place narrators and narratives within the theory.

As in the previous section, I shall first summarise the findings from the MCE data before I move to the MPE.

Ministry of Climate and Environment

5.3.1 MCE: The Norwegian government are doing a great job on climate change mitigation

The analysis shows that a positive and complimenting attitude towards the Norwegian government is very common as 72% of the MCE data contain statements acknowledging the success of some policy or the government's climate measures in general. The argument for Norway's prowess in climate measures and policy often come in the form of a summary or a compilation of environmental policies that have been implemented and what success they have had. One recurring example is the political success of the Electric Vehicle (EV) in Norway:

> "*Norway is a global frontrunner when it comes to electric cars. In 2018, nearly one in three new passenger cars were zero emission vehicles. All new passenger cars shall be zero-emission vehicles by 2025*" - Current Minister of Climate and Environment, Ola Elvestuen (Appendix: 36)

This characteristic is in line with the framing presented in section 5.2.1 above and thus represent the same narrative. However, this is also relevant to the character category as it shows the attitude and position narrator(s) in the climate policy context. In juxtaposition with the NPA theory, I would argue that the way in which MCE members continuously complement the climate efforts of both the government and indirectly their own Ministry, and keeping in mind that the minister generally speaks on behalf of the government, the narrators effectively frame themselves as 'heroes'. From this position the narrator will be able to

convey their message from a place of authority, giving more zest to the arguments and strengthens their position in a negotiation context.

Also noted in section 5.2.1 is the way the narrators frame themselves as important arbitrators and facilitators in international climate negotiations, with 25% of the MCE data emphasising the important job of Norwegian delegates in these negotiations. Former Minister Tine Sundtoft wrote the following in an opinion piece in Fædrelandsvennen (newspaper) on her return from COP19 in Warsaw:

> "*Norway plays the role of arbitrator in international climate negotiations. We are praised for our commitment and effort on climate measures in developing countries and for our work in reding domestic emissions. I the Warsaw climate negotiations, I experience how many countries acknowledge Norway's work in these areas"* (Appendix: 4: Translated by the author).

5.3.2 MCE: Optimism on behalf of Norway's future and ability to transition

In addition to being positive on behalf of the government's climate efforts, the data analysis also shows that there is a general optimism related to Norway's ability to meet climate target and transition into a low emission society (whilst maintaining economic growth). 44% of MCE data take this optimistic position. The optimistic character is often aligned with the green shift narrative, focusing on Norway's prowess in the electrification of the transport sector (EVs), high education rate and technological competence and renewable-rich power supply based on hydropower. The narrative is also closely tied to the self-complimenting position described in section 5.2.1 and 5.3.1 and builds on some of the same arguments that effectively frame Norway as a world leader on climate efforts.

> "*Norway shall become a low emission society, and at the same time continue to be a high-income society. We commit to green technology development so that Norway, and Norwegian businesses, become leaders in the green shift. New technologies and new business models will make the green transition a competitive edge for Norway,*

and create growth, jobs and welfare" – Former minister Vidar Helgesen in VG Newspaper, 2016 (Appendix: 27: Translated by the author).

5.3.3 MCE: A defensive position towards criticism

The analysis found that narrators from the MCE sometimes took a quite defensive position towards criticism, and subsequently building their narrative as a response to critics, arguing why they are right, and the opposition is wrong. 17% of MCE sources were found to take a defensive position. In all the cases, the criticism came from various environmental actors or groups and interestingly, 83% of the data sources fitting into this characteristic is related to former minister Tine Sundtoft. However, the analysis cannot show whether this is because Sundtoft was more subjected to criticism that other ministers, or if she was just more occupied with responding to it.

In relation to the major narratives from the MCE, framing Norway as a leader on climate change action and complimenting the government's efforts, the sources where the narrator holds a defensive position generally also structure narrative around the arguable success of certain policies and climate measures – to summarise and paraphrase; 'the critics are wrong, Norway is doing a good job on climate because of…'. Again, the EV narrative is often presented as 'proof' of the government's success in relation to climate change policies, while the rainforest protection and commitment from Norway is also a recurring argument.

In NPA theory, an actor frames themselves as the 'victim' by taking a defensive stance towards critics. This can often have the effect that the criticiser will be indirectly or directly framed as a 'villain' or antagonist in the narrative, which, according to Jones & McBeth (2010) is a common deliberate rhetorical strategy to strengthen the narrator's pathos.

5.3.4 MCE: On the side of science

According to the analysis, 20% of MCE sources *explicitly* leaned on science and scientific referencing to substantiate their arguments while less than 50% of all the MCE data included no scientific references at all. Determining the difference between explicitly leaning on science to substantiate claims and just merely referencing a scientific source was admittingly

left to the interpretation of the analyser, arguably leaving room for *some* conflating interpretation. However, the 20% identified, have some specific characteristics, such as heavy repetition of a given scientific source or in general just high reliance on science.

According to NPA theory, this is one of the more effective ways to establish credibility for the narrator (Jones & McBeth, 2010), as well as it lays a foundation for the argument and logic presented in the narrative. The analysis also shows how different minister have had different reliance on scientific referencing. For example, former minister Tine Sundtoft only reference science in 40% of the data related to her – wherein she rarely leans substantially on her scientific sources and sometimes the exact source of reference is rather elusive to the analyser. On the other hand, current minister Ola Elvestuen is shown to rely more heavily on scientific sources, especially the SR15 – as noted in section 5.2.4 above.

Ministry of Petroleum and Energy

5.3.5 MPE: Optimism towards the future of Norwegian petroleum

Moving on to the MPE. The most recurring character relevant MPE representatives and narrator is in line with the major framings and narratives from the Ministry of Petroleum and Energy, regarding climate change in the context of Norway. The analysis shows that 65% of all MPE narrators state an optimistic view of Norway's future petroleum industry, based on the arguments presented in sections 5.2.6-5.2.9. These sources are judges as first and foremost taking an optimistic position due to the positive language used and the general lack of negative jargons. The analysis arguably suggests that *optimism* is the overarching mood of the narrators from the MPE, generally.

The optimistic attitude does not always concern Norway's petroleum sector solely but is often relevant for the MPE's belief in solving the climate challenge, while maintaining a competitive oil industry and economic growth. To this capacity, the arguments are often framed around Norway's alleged prowess in CCS technology or the 'coal to gas- argument' (see sections 5.2.6 and 5.2.7). Or in the promise of Norway's ability to successfully transition into a low emission society described in section 5.2.9.

5.3.6 MPE: The Norwegian government is doing a great job on climate change mitigation

The analysis finds that the most notable correlation between MPE and the MCE narratives is their shared acknowledgement of the Norwegian government's climate efforts. It found that 43% of the MPE sources support this framing, making a dominant narrative also in the MPE. This is also reflected in the optimism regarding both the future of Norway as a petroleum producer and as a climate change mitigator. Again, the argument for the government's prowess in climate action is often built by a summary of various implemented policies and measures that can be shown to be successful in the capacity of emission reduction in some way or another. For the MPE, the CCS-argument and the 'coal to gas' argument is a recurring narrative as well.

5.3.7 MPE: Scientific referencing from the MPE

The analysis shows that 32% of MPE sources explicitly lean on science to substantiate their arguments and justify their position. Compared to what was found in the MCE analysis (section 5.3.4) the MPE representatives are more frequently adopting this strategy in their rhetoric, and more consistently, meaning that no single representative is more reliance on science than other – in contrast with what was shown in relation to the MCE data. Which scientific source that was used and how they were applied in the argument also differ somewhat to the MCE. I will come back to this in the 'science' section.

5.3.8 MPE: The salesperson

Analysis has found that there is one character who is specific for the MPE – i.e. does not occur in the MCE data. I have named this character the 'salesperson' as most of the arguments that has been shown I previous sections, relevant to the positive, complimentary and optimistic attitude of the narrators, tend to end up in a sort of "pitch", where the goal is to sell or promote Norway's commodities, often related to the petroleum industry. I have identified around 60% of the MPE data sources be relevant for this characteristic. There are three main commodities or assets that MPE representatives aim to sell or promote: 1) the Norwegian Continental Shelf (NCS) as an investment area for businesses and industries and future opportunities;

> "*Dear friends, it is time to summarize. The Norwegian Continental Shelf is a well-established and successful petroleum province with a huge remaining potential. It will continue to deliver investment opportunities and production for decades to come. We have the resources; we have world class suppliers and we have a predictable and stable framework. The latter will not change, and will continue to be a trademark of the NCS*" – Former minister Tord Lien at ONS 2014 (Appendix: 39)

or 2) promoting Norwegian natural gas as the replacement for Europe's coal and as a secure and stable source of energy, effectively selling gas to the EU;

> "*Norway has a track record of being a reliable supplier of gas to Europe. Our gas system is robust and efficient. Norwegian gas is timely delivered to the buyers, thereby safeguarding security of supply. In a European security of supply perspective, Norwegian gas is as trustworthy as gas from EU-member states. We have resources to stabilize our export to Europe at a high level in the coming decades*" – Tord Lien statement published in EurActive, 2015 (Appendix: 48).

And 3) advertising Norway's excess energy as a means to meet the intermittency problems that can occur in European power grids that become increasingly rich on renewables;

> "*In an average year, Norway generates a power surplus and is a net exporter of clean energy to Europe. With increased production of intermittent energy – such as wind and solar energy – there is a need for flexible capacity, which Norwegian hydropower can provide. This is why we are building new interconnectors from Norway to both Germany and the United Kingdom*. – Tord Lien's opening speech in EU's Energy Sustainable Week in Brussels, 2015 (Appendix: 45).

The data also show that the salesperson character is consistent throughout the period of inquiry and that it interacts with most of the overarching narratives from the MPE, often occurring as a conclusion, or an additive, to the argument or narrative itself.

5.3.9 MPE: Defensive towards environmental criticism

The analysis shows that in 18% of MPE data sources the narrator is identified as taking on a 'victim' position towards criticism from environmental groups and actors. The criticism is generally met with the same strategy as shown in the MCE analysis on the same character in section 5.3.3, by referring to certain arguably successful measures and climate policies like the EV or the carbon tax. Scientific referencing is also used in this context to give the response increased credibility. However, in addition to this, analyses found that one specific MPE actor, former minister Terje Søviknes, adopted a more offensive strategy in response to criticism, based on villainising the environmental movement and sometimes opposing political parties (appendix: 50 and 59). Thus, instead of framing himself as a victim, Søviknes' strategy arguably was aimed to frame the opposition as 'villains', creating a slightly different narrative dynamic, were discrediting the opposition becomes the main tactic for increasing one's credibility (Jones & McBeth, 2010). Below, is an example of Søviknes' lament towards to environmental movement's lack of 'facts':

> "*Sadly, the political debate in Norway has been characterised by too much emotions and too little fact in the last years. We keep hearing simplistic claims such as 'Norwegian oil and gas need to stay stay in the ground'…The Paris Agreement clearly states that the climate challenge is global and must be met with a global approach. And here, Norwegian oil and gas play an important role whether the environmental movement wants it or not! We must work with the oil and gas industry, not against it to reach our climate goals…We have good reasons to be proud of the way we have managed our natural resources. Knowledge and facts have been the foundation of that, and so it must be in the future as well. We must be able to have two thoughts in our heads at the same time"* (Appendix: 50: Translated by the author).

Søviknes also sporadically adopts a more offensive vocabulary than other ministers, and sometimes uses words like "betrayal" "failure" (Appendix 50: Translated by the author) about the Labour Parties opposing views and policies on oil expansion in the high north (Lofoten, Vesterålen and Senja). This way of attempting to ridicule the opponent may create a similar effect to villainising them, theory suggests (Jones & McBeth, 2010).

5.3.10 MPE: the ally and arbitrator

The last character identified by the MPE analysis complies with the framing of climate change as a global problem that needs to be solved globally, hence through international and multinational cooperation. The character is thus mostly focused on emphasising both the importance of having 'climate allies' and the arguably good and important job Norwegian delegates are doing in international negotiation as well as the prowess the government shows in taking international leadership and responsibility. The analysis found that around 15% of the MPE data contain this kind of narration, often focused on the perceived success of the Paris Agreement and the Norway- EU Relationship. Also, some of these data sources argue the crucial role the USA and China, as the biggest polluters should have the biggest contribution.

> "*The US and China have, as the two largest emitters in the world, a critical role to play in combating climate change*" – Former minister Tord Lien, 2014 (Appendix: 41)

According to NPA theory, framing oneself as part of an alliance can contribute to increasing credibility and belief in that what you are doing is the correct thing (Jones & McBeth, 2010).

5.4 Goals

The 'goals' category is concerned with establishing what the different narratives and narrators aim for – what the objective is, the policy goal. This is arguably a key part of any narrative and generally somewhat obvious as most narratives do all but explicitly state the end goal in their framing of the policy issue. However, it is important to map out what the various aims are for each narrative as this might help to both give more clarity and insight into what they entail and set up next section where the less obvious 'means are summarised.

As in the previous sections, I will begin with summarising the findings from the MCE data and subsequently move on to the MPE findings.

Ministry of Climate and Environment

5.4.1 MCE: Transition into a low emissions society

The analysis found the 36% of MCE sources directly stated or at least alluded to the aim of transitioning Norway into a low emission society, long-term. The goal and indeed the narrative itself is in line with the Norwegian government's Paris pledges and the national climate-policy goal for 2050. The goal also aligns with the narratives emphasising Norway' climate success and prowess as exemplified by former minister Vidar Helgesen below, as he presents Norway's main speech in the 2017 climate negotiations in Bonn:

> "*Norway stands by its commitments… we are on track to meeting our 2020 target of cutting 30 percent compared to 1990. By 2030, we will reduce our emissions with 40 percent by 2030, and by 2050 be a low emission society*" (Appendix: 32)

This quote exemplifies both the ambition and the confidence exceeded from the MCE regarding Norway's climate policies. The low emission society goal is an example of long-termism in the government's and the MCE's climate ambitions, reaching beyond the more imminent 2020 and 2030 target. However, as the aforementioned quote is a testament to, it is often stated in concurrently with the more impending targets, and in fact, none of the data sources shows that the long-term low emission society target is detached from the others.

The analysis also found that most of the 36% assuming this policy goal does so while emphasising the importance of maintaining economic growth throughout the transition.

> "*We must secure that Norway as a low-emission society continues to be a high-income society"*. Vidar Helgesen in VG newspaper, 2016 (Appendix: 26: Translated by the author).

In this context, the narratives from the MCE often stress the important role of the private sector and predictable and incentivising policies aimed towards businesses and industries.

5.4.2 MCE: facilitating for the private sector

This brings me to the next goal, found in the analysis to relate to 33% of the MCE data. Especially related to the 'green shift'/'green competitiveness' narratives is the goal stressing the importance of effective and incentivising policies and frameworks from the government that can contribute to facilitating such that the private sector finds both incentives for, and growth in transitioning into low emission economic activity. The goal of facilitating for a low emission transition also includes giving financial support to innovation and research so to help spur the green shift and increase Norway's green competitiveness, as stated by former minister Tine Sundtoft in 2015:

> "*New industries must contribute more to carry the welfare system. We must become better at innovation and creating novel industries. This means that the government must facilitate research, development and new innovation. This government shall enable the creation and profitability of new green possibilities and ventures. Stimulating innovation and technological development is crucial*" (Appendix: 13: translated by the author).

The goal is also frequently connected to the (self)-complementing narrative stating that facilitating for a green transition is both something the government finds important for the future and something the government are good at. This argument is again generally followed by a summary of certain arguably successful policies and measures – such as the EVs or the carbon tax for the petroleum sector.

5.4.3 MCE: Climate change mitigation and reaching climate targets

In close relation to the goal of a low-emission transition is the more imminent aim of meeting the national 2030 target – with the EU – and the overarching goal of contributing to climate change, often specifically by reaching the 1.5°C or 2°C target and complying with the Paris Agreement. 40% of the MCE sources have explicit statements concerned with mitigating

climate change on the whole, while 28% refer to the national 2030-target, 8% are concerned with the domestic 2020-target and 22% mention the 1,5/2°C targets enshrined in the Paris agreement. The means to meeting these goals are either defined by Norway contributing to emission cuts and transitions in other countries through investment via various investment schemes or the ETS mechanisms or as domestic policies aim to reduce emissions in non-ETS sectors. These will be further elaborated on in the 'means' category. Tracking the narrative over time, the analysis suggests that the strategy for meeting the climate targets based upon domestic emission cuts (mainly from non-ETS sector) have gained more focus in recent time (Appendix: 26, Appendix: 35), arguably because increasing the national ambition was part of the ever-tightening partnership with the EU to reach the 2030 target.

5.4.4 MCE: Implement adaptation measures

This goal is directly related to the adaptation narrative. It is basically concerned with the importance of preparing for a changing climate domestically and thus stresses the aim of implementing adaptation measures to meet the future challenges to for example food security and a changing, wetter and warmer climate. 25% of all MCE data sources name this as a policy goal for the government in relation to the climate challenge. The adaptation narrative itself is generally related to the framing of climate change as a severe issue, that requires urgent action – and the scientific narratives that go with it. The analysis suggests that the adaptation narrative has been relatively consistent throughout the period of inquiry, arguably gaining some momentum after the SR15 publication.

Ministry of Petroleum and Energy

5.4.5 MPE: Expand the petroleum industry

As will be evident in the coming sections covering the MPE goals, the objectives held by the Ministry of Petroleum and Energy tend to differ somewhat from the goals and narratives from the MCE. As the overarching MCE objectives are mainly concerned with reaching climate targets and thus mitigating climate change and adapting to it – while maintaining economic growth, most of the aims of the MPE are more explicitly concerned with the expansion of the Norwegian petroleum sector. Considering the rationales in the narratives from the MPE, framing Norwegian petroleum as a *solution* to the climate challenge (the coal to gas argument

etc.) an expansion of the petroleum sector falls well into the logic, reconciling both the Norwegian petroleum industry, economic growth with climate change mitigation.

> "*Those concerned with international climate emissions should cheer on Norwegian petroleum activities*" – former minister Tord Lien, 2015 (Appendix: 42: Translated by the author).

The analysis shows that 75% of MPE sources claim this goal of petroleum expansion, many framing it as the main priority and policy of the Norwegian government (see for example Appendix: 42 or 54). Within this narrative, expansion is the key to unlocking both future *economic growth* and meeting the *future energy demands* of both Europe and the world thus approaching a realisation of the objectives of some of the most prevailing MPE narratives. Respectively, 60% of MPE sources stated the importance of meeting the future energy demand while around 40% explicitly framed economic growth as a pillar of all future energy, petroleum and climate policies. I would be remiss not to note that the three goals mentioned in this section share many of the same data sources. This arguably is a testament to their logical interrelation within the MPE narratives.

5.4.6. MPE: Meeting the climate challenge and achieving the climate targets

Like the MCE, the analysis finds that the MPE also consider meeting the climate challenge a major priority, and 50% of MPE sources are concerned with mitigation climate change either through reaching domestic climate targets (17%), the 1.5/2°C target of the Paris agreement (25%) or transitioning into a low-emission society long-term (8%).

In both contrast to the MCE narratives and in compliance with the overarching MPE goal described in section 5.4.5, the means of achieving these targets are directly connected to the expansion of the petroleum sector - in addition, however, to implementing various non-ETS emissions-cutting measures as I shall come back to in later sections. Thus, the MPE and MCE can be said to have some but not full correlation considering this narrative.

In some MPE sources, a green shift is implied in the context of climate change mitigation and meeting the various climate targets. Here, like in the MCE narrative, the emphasis is put on facilitating for the private sector and research to inspire innovation and new green industries. Thus, and much like in the similar MCE narrative, the goal is for the government to create fruitful frameworks that incentivise innovation and transition for incumbent and novel industries and businesses.

5.4.7 MPE: Promoting the NCS and selling Norwegian gas to Europe

The last identified goal found in the analysis is directly connected to the 'salesperson' character described in section 5.3.8. In similar manner, this goal was identified as many MPE data sources suggested obvious intent to attempt to promote the Norwegian Continental Shelf or sell natural gas to the European market, framing it as a solution to both the climate issue, the intermittency issue and the future energy demand issue and framing the NCS as 'the place to be' for businesses. For more detail re-visit section 5.3.8.

5.5 Means

This section will deal with the various means and measures stated by the MCE and MPE for reaching the goals related to the narratives and described in the previous sections. As we will see, many of the stated means are measures and policies already implemented to some degree by the Norwegian government. This is in line with the optimistic and self-complimenting narratives described earlier in the chapter. This section shall follow the same structure as the previous ones, of summarising the MCE means first, then the findings from the MPE data analysis.

Ministry of Climate and Environment

5.5.1 MCE: Transitions in the transport sector

According to the analysis, the most recurring strategy for reaching the goals of the MCE is based on electrifying and transitioning the transport sector in order to reduce domestic emissions from non-ETS sources. Transition in the transport sector includes electrifying ferries and shipping, electrifying or implementing hydrogen into heavy transport vehicles and electrifying personal transport. It also entails funding to develop public transport by

expanding and improving bus lanes and investing in electric or hydrogen buses as well as investing in cycling lanes. Thus, the expected growth in traffic will be covered by collective transport (or cycling).

The analysis found that 62% of the MCE data held transport as key to achieving the goals, and most of these sources also included compliments regarding the measures that have already been taken in this capacity, such as the relative success of EVs in Norway. Pilot projects for electrified ferries are also continuously mentioned as an example of the government's success in transforming the transport sector.

The transport sector remains one of the most important focus areas for the Norwegian government, and it is meant to take on a large portion of the country's emission reduction for reaching the 2030 target. The electrifying of personal transport is already underway, as most of the MCE representatives explicitly note, and according to this narrative, many more successes are imminent in relation to emission reduction in the transport sector.

5.5.2 MCE: Implement long-term and ambitious climate pledges (in the Paris Agreement), and ensure commitment over time

This narrative was especially recurrent in the years prior to the Paris Agreement negotiations in 2015 and was found to be increasing in focus the closer to the event it was. The emphasis on a 'strong' Paris agreement based on broad participation and ambitious pledges was framed as both the key to the climate issue and Norway's main strategy on climate policy at the time – to secure a successful negotiation with high ambitions. The sitting Norwegian minister of climate and environment in the period around the Paris negotiations Tine Sundtoft, stated several times how the run-up to the Paris Agreement represented the most important and biggest climate work and how it was 'on top of the agenda' both for her personally as one of Norway's delegate in the negotiations, for the MCE and the government (Appendix: 16,18,19 and 20).

The analysis found that 47% of the MCE data sources state how strong, long-term climate policies and ambitious Paris pledges were a key part of meeting the climate targets and thus

facing the climate challenge. This is in line with the narratives framing climate change as first and foremost a global issue that requires global cooperation to be solved.

In the aftermath of the Paris Agreement, the analysis found – in 16% of MCE data – that there was put special importance on implementing systems for monitoring and following up the individual countries Paris commitment. In the same argument was a demand for creating structures within the Agreement that would make the pledges more binding and subject to sporadic intensification.

5.5.3 MCE: Protecting rainforests and fighting deforestation

Throughout the analysis, it became clear how rainforest protection and action against global deforestation is a major part of Norway's climate and environmental strategy, mainly based on the funding of the REDD+ initiative to reduce emissions from deforestation and forest degradation. The REDD+ was initiated by the United Nations Convention on Climate Change (UNFCC) and is meant to function as a (Clean Development) mechanism for financing emissions reduction from the forest sectors in developing countries. As a means for meeting climate targets for Norway, REDD+ funding and afforestation efforts arguably represents more the climate measures already taken by the government rather than a new means of enhanced reduction in the future – this is also evident in the way most MCE narrators speak of it as a past success rather than a future aspiration.

> "*Reducing deforestation -- while at the same time allowing forests to grow, regenerate and be replanted -- can contribute to one third of the climate change solution the next two decades. Yet, every minute two soccer fields of rainforest is destroyed. That is 120 soccer fields in an hour. 2880 soccer fields a day… That is why Norway has committed to invest around 400 million dollars annually to rainforests*" – Former Minister Tine Sundtoft at COP21, 2015 (Appendix: 23)

However, ambitions of "Increased action to reduce deforestation in the world forests" (Appendix: 35) has become part of the narrative on increasing climate ambitions after the publication of the SR15.

5.5.4 MCE: Technological development, renewable energy and innovations

Another major strategy stated by the MCE for reaching the various climate targets (while maintaining economic growth) has to do with developing what is often referred to as "low emission technologies". Development of low emission technology has been declared as one of Norway's main strategies for achieving a low emission transition and meeting the climate challenge. 'Low emissions technologies' is often used a term to encapsulate all types of technologies that can contribute to either *energy efficiency* (emphasised in 16% of MCE sources), emission reduction from sources, innovative energy technologies such as renewables and batteries or various solutions for infrastructure such as buildings and transport. In this context, MCE representative often explicitly state the importance of such innovation in the maritime sector – ships and shipping, in the transports sector and especially considering heavy transport, and industry – with emphasis on the biggest polluters like the petroleum industry and the energy-intensive non-ETS industries such as construction, aluminium industry, mineral production and other heavy industry (Appendix: 6). Some also mentioned the need for low emission innovations in the agriculture sector.

The analysis finds that while 33% of MCE data emphasise the development of low emission technologies, 30% specifically state the important and the governmental intent of a commitment into increased research, development and deployment of *renewable energy technologies*. In this context, MCE representatives often mention how a transfer of competence and knowledge from the petroleum industry coupled with a high education rate, puts Norway in an advantageous position for becoming a leading nation on renewable technology. Hence, this argument is logically attached to the green shift/green competitiveness narratives by emphasising how new technological ventures and innovations can inspire new industries and businesses in Norway, securing economic growth and employment for the future.

Increasing commitment through funding, improvement and establishment of more research and education is also relevant in this context. Several MCE sources hold this as an important factor in order for Norway to be successful in a green shift.

5.5.5 MCE: Economic measures

Throughout the MCE narratives, the analysis has identified a variety of economic means for reaching climate targets and securing economic growth. Most of these measures are systems and mechanisms that are already in place, such as emission taxes for the petroleum industry, tax incentives for renewables and new technologies and quota trading schemes as well as various Clean Development Mechanisms (CDM). The general tone regarding these existing measures is one of praise, acknowledging and emphasising the success of the various quota schemes and CDMs in Norway's history of climate change mitigation.

In addition to commending the existing economic measures for climate action, several MCE representatives stress the importance of establishing a global price on carbon – which would arguably give increased incentives for small and large-scale emissions reductions all over the world. Below, Tine Sundtoft express the MCEs view on a carbon price at the Ministerial Meeting of the Kyoto Protocol in 2014:

> "*To unlock green growth possibilities, we need a strong international agreement and a global price on carbon. Norway strongly supports the international efforts to promote a price on carbon!*" – (Appendix: 10).

5.5.6 MCE: Emission cuts in infrastructure

In relation to the technology and innovation-based measures in section 5.5.4, the analysis shows that 22% of MCE sources stress the importance on cutting in emissions specifically in infrastructure as a means to reach the climate target. In this context, ambitions concerned with approaching a zero-emission construction and building industry is often mentioned, as well as developing roads, railways and city infrastructure in a way that allows for better collective transport and more cycling. Considering low emission building specifically, energy efficiency is recognised as one of the major areas of improvement and emission reduction opportunities.

5.5.7 MCE: Develop and deploy Carbon Capture and Storage technology

According to the analysis, 16% of MCE data mention CCS as an important factor for reaching climate targets and maintaining economic growth. Here, CCS is mainly framed as a means for reducing emissions from the petroleum industry, producing a 'win-win' outcome for both the climate and the Norwegian economy. However, some sources also stress the important role of CSS in other, non-ETS, industries in the future. Using CCS as a means for climate change abatement and reaching the set domestic climate targets is highly related to several of the prevailing MCE narratives, especially those who deal with green economic growth and/or contributing to global climate change mitigation while securing domestic economic growth in the future. The analysis also finds the CCS was gradually introduced to the MCE narratives in the years after the Paris Agreement, is rarely mentioned by former minister Tine Sundtoft or in relation to the Paris negotiations.

5.5.8 MCE: Flexible mechanism

Specifically, relevant ETS sectors such as the petroleum industry, flexible mechanisms are framed as the main means for dealing with emissions. In this narrative, the ETS itself is the principal system for dealing with these emissions, where the petroleum industry, for example, can offset emissions by trading quotas, mainly within the EU but also with developing countries. Norway has been a part of the EU ETS system since 2005 (Appendix: 15). The analysis finds that 17% of MCE data sees flexible mechanisms and ETS as an important means for achieving Norway's climate targets.

5.5.9 MCE: Promoting individual lifestyle choices

The analysis found that some (8%) of MCE sources argue the importance of information regarding the possibilities related to individual's lifestyle changes and consumer behaviour. Promoting such opportunities include labelling commodities and products to make it easier for consumers to buy sustainably and fund various information campaigns and ads. Incorporating climate and environmental related information into the educational system is also alluded to (Appendix: 24,26,28).

Ministry of Petroluem and Energy

5.5.10 MPE: Expand the petroleum sector (northwards)

In line with the most prevailing narrative from the MPE, expanding the petroleum sector is both a major goal in itself, but also a means to achieving other goals such as sustaining economic growth for the future and meeting the climate challenge. As was shown in section 5.4.5, 75% of MPE sources followed the rationale of expanding the oil sector and further analysis found that 65% of all MPE sources hold expansion northwards to the Barents Sea or the LoVeSe area (Lofoten, Vesterålen and Senja) to be the specific destination for most of the expansion.

Additionally, 35% of MPE data emphasise how a significant premise for securing expansion is by the government allocating new exploration acreage and new licences to both invite new business opportunities and contribute to the development of incumbent actors. In addition to the effect it would have in terms of expanding Norwegian petroleum activity, allocation of new acreage and licences would arguably also promote the NCs as an opportunity for new ventures. 14% of MPE sources also noted the importance of good, stable and predictable frameworks and policies by the government in order to secure petroleum expansion. What these frameworks and policies would include however was not specified.

Implied in the narrative of expanding the petroleum activity is also the idea of improving on it through more efficient methods of extraction brought on by innovations and new technologies. Improved Oil Recovery (IOR) is the term used in this context and has become a framework of commitment for the MPE and the Norwegian government both in research and education.

> "*I would like to stress that any Norwegian Minister of Petroleum and Energy, no matter what party affiliation, would want exactly the same thing: Improved recovery from the Norwegian Shelf*" – Former minister Tord Lien at the opening of Statoil's new research centre for IOR, 2014 (Appendix: 38).

In the same speech, Lien goes on to argue for why IOR is so important – for ethical reasons:

> "*Why? Because we need energy, and we need lots of it! A growing population combined with aspirations for improved living conditions requires more energy.*" (Appendix: 38).

Thus, it is evident how the arguments for IOR fits into the 'world needs more energy'-narrative as well as into the expansion goals from the MPE and the government. 21% of MPE data mention or stress the importance of IOR for the petroleum sector.

5.5.11 MPE: Contribute to replacing coal with natural gas

As a method of achieving both the MPE's climate goals and the goals related to economic growth and oil expansion, using Norwegian natural gas to replace coal – mostly in Europe – is well established within the MPE narratives. The analysis finds that 47% of MPE sources explicitly promote this method as a means to meet the various target. As with the expansion of the petroleum sector, the 'coal to gas' argument can be understood as both a framing of the climate-energy relationship, a goal and also a means in itself. However, as the coal to gas argument and narrative is described in previous sections, I shall dwell on it no further here.

5.5.12 MPE: Develop and deploy CCS

In correlation with the MCE, the MPE also put emphasis on CCS as a key to reaching the various goals. However, in contrast to the MCE's 16% of data sources, the analysis shows that 43% of MPE sources explicitly hold CCS as an important means of reaching both the climate change related, and the economic growth-related goals. In many ways, CCS will be the key to unlocking future economic growth as a means to secure the continuation of the petroleum sector after 2050. Some MPE sources also stress the importance of Norway supporting CCS projects abroad (Appendix: 43).

In 2015, Former state Secretary Kåre Fostervold stated the 'new governments' ambitions and plans for CCS in Norway thus:

"*The new Government needed to assess what options we had in order to support the deployment of large-scale CCS projects in the coming years… The policies and measures presented in the strategy can be ordered along three different paths:*
One: Supporting the realization of full-scale demonstration facilities
Two: Research, development and demonstration
And Three: Efforts to demonstrate CCS internationally" (appendix: 43).

5.5.13 MPE: Research, development and deployment of renewable energy technology

In correlates with the identical MCE method of achieving their goals, analysis finds that renewable commitment emerges as a predominant method for Norway in the climate change context as 36% of MPE data also support this strategy. Many of the MPE sources that mention renewable however, see it as an addition to growing petroleum activities, whilst the MCE rarely mention petroleum or the petroleum industry.

Investment in research and development and funding of renewable ventures and economic incentives are all measures aimed to contribute to the future of Norwegian renewable deployment. The MPE has also stated the government's ambitions of continuously increasing the renewable rate in the Norwegian energy mix in years to come by improving efficiency, developing windmill areas and investing to renovate and improve existing hydropower plants (MPE, 2015-2016).

5.5.14 MPE: Flexible mechanisms and other economic strategies

Again, the analysis found a correlation with the MCE in relation to the means. 25% of MPE sources supports the strategy of achieving climate goals through the ETS system and the general rhetoric suggests that the MPE ascribe great success to Norway's historical participation in the EU-ETS. As with the MCE, the analysis of MPE sources suggest that ETS is the main strategy to deal with the emissions from the petroleum sector. Both the CDR and the REDD+ schemes can be categorised as flexible mechanisms and are both sporadically mentioned by MPE sources.

In addition to highlighting the success and importance of flexible mechanisms, 11% of MPE sources mention the positive effect of other economic measures such as various tax incentives for new technologies and industries, and the emission taxes of which the Norwegian petroleum industry have been subject to for many years.

5.5.15 MPE: Improve energy efficiency

According to the analysis, 17% of MPE sources stress the important role of improving energy efficiency domestically. This is mostly recognised within the 'world needs more energy' narrative as an argument for how the future energy demand must be met. The method of improving energy efficiency goes hand in hand with technological development and innovation and deals with both improvements of the power grid and more effective means of harvesting energy from energy sources technologically. Improvements to infrastructure, industry and transport are also stated as an important area to achieve heightened energy efficiency.

5.5.16 MPE: A low emission transport sector

Again, the analysis shows a correlation between MCE and MPE narratives and means as the importance of a low emission transition in the transport sector is stressed by 17% of MPE representatives. Here too, the relative success of EVs in Norway generally feature as a principal part of the narrative, mostly to promote Norway's prowess in climate action and sometimes to underline the optimism attached to achieving similar transitional effects in other modes of transport such as shipping and heavy transport.

5.5.17 MPE: Supply the EU with energy

In line with several of the overarching narratives, especially those concerned with economic growth and/or multilateral cooperation, increasing efforts into means that would strengthen Norway's role as an energy supplier to Europe is key to meeting various goals. There are two different measures involved in this context, 1) investment, improvement and development of grids and interconnectors with Europe – specifically with Germany more effectively transfer electrons from Norway energy production (mainly from renewables), and 2) develop pipelines and in order to more effectively supply Europe with natural gas. Each of these

measures is supported by a different 11% of MPE representatives. Regarding the latter, natural gas is framed as a solution to the intermittency issues that may occur in a grid rich on renewable energy sources such as wind and solar. Norwegian natural gas is thus meant to provide stability and reduce the reliance of the dirtier coal or nuclear energy in the European energy mix.

5.5.18 MCE: Negotiate a global price on carbon

Lastly, the analysis shows that some MPE representatives state their intent and the importance of implementing a global price on carbon – so to secure a universal incentive for emission cuts in all sectors. The means of achieving this goal is through international negotiations and thus it correlates with the narrative of Norway as a central actor in international climate-related negotiations. The 11% of MPE sources relevant to this strategy are all from the pre-Paris agreement period and, according to the analysis, it has been all but abandoned by the MPE in more recent years.

5.6 Science

The next section will deal with how scientific referencing were used in data sources. This includes how much, or in how many instances, science has been referred to in the sources in total, the potential disparity in scientific referencing between the two ministries of interest, which sources were mostly used and how they were used to both contribute and give credibility to the narratives. Throughout the analysis, I was mostly interested in references to the IPCC – especially the SR15, and also the IEA, as they are often referred to in relation to energy and they are known to be an authority on energy and climate science globally.

5.6.1 Science in MCE data

Analysis of all MCE data sources found that 52% had *no scientific referencing*. Interestingly, there is some disparity in the number of scientific references between the various minister. For example, the analysis found that former minister Tine Sundtoft leaned less on scientific referencing than her descendants with over 60% of her affiliated data sources void of any science. Contrastingly, current minister Ola Elvestuen was found to be more reliant of scientific referencing, especially after the SR15 publication when most of his rhetoric

revolved around the findings from the IPPC report. However, it is important to note in this context that, while over half of all data without any scientific referencing might seem like a lot – especially in a complex and science-dominated field like climate change etc. – the majority of the data sources were speeches. Thus, the format does not explicitly require any form of referencing and it is arguably up to the orator whether or not to bring science into the content of the speech, for strategical or rhetorical reasons. In other words, a lack of scientific referencing does not necessarily translate into a lack of scientific understanding or awareness from the speaker. Additionally, several of the speeches do allude to scientific insight by phrases such as 'a broad consensus from the scientific community state that…' (Appendix: 13: Translated by the author) or 'scenarios suggest that…' (Appendix: 16: Translated by the author). Thus, it is clear that the lack of referencing alone does not necessarily give the full picture in this context.

Additionally, the analysis found that 28% of MCE data sources had scientific references which I have chosen to categorise as 'other'. The reason for framing them so is the scientific sources' lack of immediate relevance or credibility towards the topic and the research questions and hence I shall not dwell much on these. In summary, these are often referencing to various governmental reports or statistics, or they can even be the orator's favourite book (Appendix: 22). Some of these 'other' sources also have relevance for the topic of climate policies but are deemed as more 'political' than 'scientific' in the eyes of the analyser. In short, they are not representative of the research questions or the problem statement of this thesis.

The analysis found that 25% of MCE data sources had references to the IPCC, most of them (19%) referred to the IPCC Fifth Assessment Reports, AR5 (IPCC, 2014), whilst the remaining 6% were focused on the SR15. In most cases, analysis found, the AR5 was used in the narrative as the backdrop for the introductions to the climate change issue, or a tool to frame the political issue of climate change within the scope of science, as exemplified below in an opinion piece by former minister Vidar Helgesen published in VG, 2016:

> "*With a continuous trend of today's emissions, we will reach 4,5 degrees by end of the century, according to the UN Climate Panel (IPCC). By reducing climate emission, climate change will be significantly reduced*" – (Appendix: 25: Translated by the author).

Helgesen goes on to emphasise the importance of reaching the 2°C target set in the Paris Agreement thus framing the context in which Norway's climate policy must operate.

As shown in section 5.2.4, the SR15 publication had a particular effect on the narrative in analysis suggest that inspired a somewhat shift in the framing of climate change from the MCE (Appendix: 36). The relevant data sources from the period after the SR15 publications allude to the heightened emphasis and urgency in the climate change rhetoric.

In addition to IPCC references, some MCE sources lean on the somewhat, and arguably, comparable International Energy Agency (IEA) (5%) or in one case, IRENA (International Renewable Energy Agency). The reason behind the argument of compatibility with the IPCC is mainly based on the global authority and discursive significance associated with these institutions in relation to climate policy and climate science. The IEA's World Energy Outlooks (WEO) particularly, are seen to hold significant insight into future climate-energy patterns due to their development of future energy scenarios factoring in zounds of data and information on most features that can have an impact on the future energy situations around the world. In the 2017 Report to the Storting on strategising Norway's transformational approach towards 2030 (MCE, 2016-2017), the IEA is referenced more times than the IPCC overall and in relation to future energy trajectories and climate policies. Additionally, IRENA in referenced twice in the context of renewable deployment in Norway.

5.6.2 Science in MPE data

As with the MCE data, analysis shows similar numbers of sources that incorporate *no scientific references*, as 50% of MPE sources fall into this category. In terms of the disparity between various ministers however, in the use of scientific referencing, the MPE analysis show – in contrast to the MCE – that there is more consistency within the MPE over time.

Thus, no minister can be said to be more representative of this category than any other. Also, in similarity with what the analysis found in the MCE, some sources allude to science and, for example, “all the scenarios” (Appendix: 37), but do not however directly reference any sources.

The analysis found that the IEA has been by far the most referenced, in terms of science and 43% of all MPE data have IEA references. Especially recurrent is the IEA WEO 2014 (IEA, 2014), the IEA WEO 2015 (IEA, 2015) and the IEA WEO 2017 (IEA, 2017). The 2016 Report to the Storting is a good example of the MPE’s reliance on IEA data and as the majority of arguments and conclusions made in the text is based upon data, statistics and scenarios from the WEO 2015 (MPE, 2015-2016). In the report to the Storting, the IEA is referenced 23 times, while the IPCC is mentioned once and IRENA 9 times. However, in the context of framing climate change in a policy setting, the report exclusively relies on IEA scenarios rather than IPCC scenarios. What can be inferred, or at least argued based on this is that the MPE generally tend to frame the climate issue in context of energy policy rather than environmental policies – granted, this is in line with the area of responsibility of the MPE.

Considering the IPCC, there are in total 25% of MPE data sources with references to the AR5 (18%) or the SR15 (7%). In comparison with the MCE, where IPCC sources are mostly used to emphasise the urgency and severity involved in climate change, the MPE mostly refer to the IPCC in the context of stressing the importance of CCS development (Appendix: 41,43,44,65) or emphasising the positive effects of substituting coal with gas (Appendix: 41,42,59). This, I believe is an interesting find as it illuminates the difference in how the two ministries use the scientific findings of the IPCC.

5.7 The moral of the Story

In this section, I aim to capture the essence of the narratives from the MCE and MPE and illuminate some central features and relevant findings in relation to the research question of this thesis. To avoid too much further repetition in this chapter however, I will attempt to do so briefly while bringing into view some hitherto unmentioned findings of the analysis.

5.7.1 MCE narratives: Norway's prowess, green growth and international climate action

In relation to research questions regarding the changes in narratives over time (RQ1), the analysis found that Ministers and representatives of the MCE have continuously framed Norway as a world leader in both climate measures and policy as well as an important arbitrator and actor in international climate negotiations throughout the period in question. The analysis also found that this narrative occurs more frequently in response to criticism or in an international setting. Additionally, the data suggest that, in terms of framing in the Norway-climate context, this narrative is one of the prevailing ones (RQ1), as it is the most heavily featured in the data set, both over time and in sheer quantity. Considering consistency (RQ1) in other prevailing MCE narratives, the analysis show that both the economic/*green growth* narrative and the narrative(s) revolving around *international commitment* and *cooperation* (Paris Agreement, Norway-EU relationship, international climate targets etc.) are recurring throughout the period of inquiry, the latter with a slight spike in the period around the Paris negotiations. The *adaptation* narrative, however, is not as frequently appearing in the years prior to Paris and comes more into view from 2017 and onwards.

According to the analysis, there also seem to have been some change in the way the MCE presents the Norwegian climate efforts after the Paris negotiations had taken place (RQ2). Many of the MCE sources from the period leading up to Paris contained less concrete storytelling in relation to which measures and what strategy the government should or was taking in relation to climate change, rather, the rhetoric was mainly focused on the importance of a broad and comprehensive climate agreement itself and not so much on the content of such an argument. In other words, the Paris agreement changed the narrative in a direction where specific policies – and especially those already implemented or 'successful – were given more attention. In a way, the narratives became somewhat more acutely aligned towards a, now, specific policy goal which was the 1,5/2°C target or the domestic 2030-targets. After the Paris negotiations, more emphasis was also put on the relationship with the EU in the context of climate policy and emission reduction. In accordance with findings regarding scientific referencing, the period after the Paris agreement also saw an overall higher reliance on climate science in the MCE narratives – in many instances used to justify or contextualise the 2°C target and thus the domestic 2020 or 2030 targets. To some extent, the MCE narratives emerging after the Paris negotiations can also be said to shape themselves more in

line with the broader international climate narratives that come into view as a result of the new political context set by the Paris agreement, wherein concrete targets, and (subsequently) specific policies have been set in order to deal with the climate challenge (RQ2). In other words, the narratives could now move from somewhat more abstract rhetoric to a more concrete one due to the frameworks and targets set by the Paris agreement. The analysis also suggests that the growing EU-Norway relationship regarding climate policies also contributed to adjusting the narratives so to be more aligned towards concrete measures and relevant climate targets and policies.

Although there is limited data to sufficiently substantiate it, the analysis does also suggest that the SR15 to some degree changes the rhetoric on climate change and inspires more urgency and intent in the narratives (see section 5.2.4 and appendix: 36) (RQ2). In the few MCE sources immediately following the publication of the SR15, significant weight is put on summarising the findings of the reports, framing it as a 'game-changer' that must inspire increased ambitions in the fight against climate change and environmental degradation (Appendix: 36).

Before I move on to the MPE once more, I will comment briefly on the way in which the Norwegian petroleum sector feature within the MCE narratives. Rather interestingly, the analysis found that the petroleum sector, or Norwegian oil and gas in general, were *unmentioned* in 70% of all the MCE sources on the topic of climate policy and environmental degradation. When the petroleum sector was mentioned however, it mainly followed the rationale of the MPE, framing it as part of the climate change solution, and important for decades to come. This lack of attention to the petroleum sector from the MCE, however, can arguably be seen as a testament to how petroleum does not directly factor into the MCE and thus the government's climate strategy and policy – beyond the ETS scheme (RQ4).

5.7.2 MPE narratives: Future energy demand, coal to gas, economic growth and carbon capturing technology

Considering consistency in the prevailing MPE narratives over time (RQ1), both the narrative framing Norwegian petroleum as an important factor for meeting the *future energy demand*, the *coal to gas* narrative and the narrative emphasising how petroleum is and will be an important contributor to stable for *economic growth* and employment are shown to be consistently recurring in the MPE data analysis. The same can be said for the narratives focusing on technological solutions to the climate issue such as the CCS-narrative. Other narratives such as those concerned with promoting business opportunities on the NCS occur more sporadically, but still quite constantly and cannot be said to be more relevant for any particular ministers than others. In fact, one might deduce from the analysis that the relatively consistent nature of the MPE narratives over time, makes it difficult to argue that there has occurred any significant changes in them as a result of the Paris Agreement or the SR15 (RQ2). Overall there is little mention of the Paris Agreement and few references to the IPCC's SR15 throughout the MPE data.

However, the MPE do often rely heavily on the narratives of the IEA based on their future energy scenarios. The 'world needs more energy' narrative is particularly linked to the IEA and often accompanied with a reference to the New Policy Scenario (IEA, 2016, 2017) – often referred to as the 'Main Scenario' by MPE representatives (Appendix: 45,53,55,56). The MPE lean on the IEA scenarios to argue for the future importance of petroleum and thus justifying their and the government's ambitions for expanding the Norwegian petroleum sector and promoting the NCS. Compared to how the MCE generally avoid the topic of the petroleum sector (as seen in section 5.7.2), the MPE can arguably be said to base most of their narratives on either protecting or promoting Norwegian oil and gas. Thus, I would argue that the MPE goes a long way to protect the petroleum sector in the context of a discourse largely dominated by climate change-related narratives and sustainability issues (RQ4).

5.8 Summary

In the last section of the chapter, I will attempt to draw some conclusions based on a comparison between the MCE and the MPE data analysis. Thus, I aim to address whether clashes occur between them, and where these clashes may be most evident (RQ3). I will also address the differences between them in terms of the framing of climate change as a policy issue and establish where they seem to agree with, or supplement, each other. Lastly, I will present a summary of my findings in two tables below, in the format presented in Table 1. The tables are divided between the MCE and the MPE and are designed to illuminate the narratives found throughout the analysis, what they entail (goals, means etc.) and which data sources are represented by each finding.

First and foremost, the MCE and the MPE seem to generally be in agreement when it comes to the severity of climate change and the crucial task of maintaining and securing economic growth while meeting the climate challenge. Granted, the two ministries may have different pathways and strategies for achieving the inferred in this context of meeting climate targets while securing economic growth. The MPE's main strategy is based on an expansion of the petroleum sector while the MCE narrative often revolves around the concept of green growth and competitiveness. However, the overarching premise is the same: *climate change action and economic growth are reconcilable and necessary*.

Both ministries also agree about the Norwegian government's prowess as a climate negotiator internationally and in climate, policies framing the government's efforts in climate mitigation as 'world-leading' and effective. The analysis also found them to agree about the importance of committing to low emission technology and renewable energy, as it would both unlock new markets and economic opportunities and contribute to meeting climate targets. Also, the analysis suggests that there is a broad agreement about what the ideal means for reaching the various goals are (see section 5.5.1-5.5.18). According to the analysis, there were however some differences related to the scientific referencing between the two ministries. Not in the percentage of sources that had them, where the MPE and the MCE were almost identical, but in which scientific sources that were used. As previously showed, the MPE mostly relied on the IEA, while the MCEs narratives were more related to the IPCC's publications or 'other'

literature. In other similarities, both ministries exude great optimism towards the future of Norway both as a petroleum producer and a leader on climate change.

So far, the analysis shows no policy areas, framings or narratives where there are clashes between the MCE and the MPE. There are some differences in strategic priorities towards climate action and what science to rely on, but these are arguably generally in line with the different areas of responsibility associated with the ministries. One could be tempted, however, to hypostatise that there would be some narrative clashes in relation to the role of petroleum and the oil industry in the climate policy context, as the climate change-petroleum relationship often can prove somewhat complicated. Nevertheless, in the few instances where the MCE mention the petroleum industry, they seem to align perfectly with the prevailing MPE narratives framing oil and gas a necessity and a part of the climate solution. In conclusion, the analysis was not able to illuminate any strong contradiction between the MCE and the MPE that can be characterised as 'clashes' (RQ3). In fact, the analysis suggests that the MCE and the MPE supplement each other's narratives quote effectively.

5.8.1 Table 2 and 3

Below, I will present the findings of the analysis in the format of Table 1. Each table will represent one of the relevant ministries and aim to illuminate the various narratives and the characters, goals, means and science associated with them. In a way, Table 2 and 3 will compile the 68 tables used to analyse the data sources, into two tables, each data source represented by a number between 1 and 68 that references the list of data in the appendix. Data source 64 to 68 are the white papers used in the analysis, hence the bold font.

Table 2. Summary on narratives from the Ministry of climate and Environment

Framing	Character	Goals	Means	Science	Moral of the story
Climate change is severe and must be mitigated (3,5,8,9,12,14,16,17,18,20,24,25,28,32,35,36,**66**,**67**) Norway: a leader on climate policy and measures (1,2,4,6,7,8,11,12,16,20,27,29,34) Economic growth must be assured (5,6,10,13,22,23,25,27,31,36,**66**,**67**) *Green growth* is an important premise and key word for climate policies and measures – economic growth and emission reduction is reconcilable. (5,6,8,9,10,13,14,22,25,27,**67**) International cooperation is key to solving climate change (8,9,12,13,14,15,18,19,20,21) 2-degree target as the overarching premise (13,14,15,17,18,19,21,22,**66**) Norway-EU partnership is important (15,16,21,25,26,29,**66**) *Adaptation* is important and should be strategized and committed to (9,17,18,28,30,32,35) Climate action also gives opportunities for Norway – green shift, new industries, new economy (positive economic perspective) (3,5,13,14,25,27) 'Green competitiveness' as a principle for the transition (26,27,33,34,**67**) The UN SDGs as a premise (14,30,32,35,**66**,**67**) The world is lagging on climate change, more ambition needed (3,8,19,32,**67**) Job security is important in the transition context (25,**67**) Industry and businesses are key to solving the climate problem - green shift (5)	Compliments the current, and recent work the government is doing and commends national climate action, policy and measures (hero) (1,3,4,5,6,7,10,11,12,13,15,16,20,22,23,24,25,26,29,30,31,33,34,36,**66,67**) *Optimistic* for the future and a successful green transition in Norway (2,3,5,6,8,13,14,15,17,19,22,23,24,27,31**, 67**) Emphasises transnational and international cooperation (8,10,12,13,14,15,18,19,20,25,26,**66**) Commends Norway's important role as arbitration in national climate negotiations (10,12,13,14,16,17,20,21,25) Defensive position towards criticism regarding Norway's climate efforts (1,2,4,6,7,29) Uses *science* substantiate arguments and position (9,22,28,35,36,**66**, **67**) 'Previous governments have done a poor job on climate issues' – we must do better. (3)	Contribute to climate change mitigation globally (3,4,9,12,15,17,20,22,24,26,31,35,**66,67**) Transition to a low-emission/sustainable society – long term (1,7,10,14,15,17,19,22,26,27,32, **66,67**) Facilitate for industries to make emission cuts and transition into low-emission activity – through polices and frameworks (green shift) (3,5,6,13,14,18,21,24,26,32.34**,67**) Implement *adaptation* measures (9,17,18,28,30,32,35,**66,67**) Reach the national 2030 targets (with the EU) (15,16,21,24,25,26,34,**66**) Reach the 1,5/*2-degree target* (whilst maintaining economic growth) (13,14,17,19,21,22,27,35,36) Reach 2030 targets *and* continue towards a low-emission society in 2050 (20,22,34,**66,67**) Be active in international climate negotiations (4,10,12,14) Position Norway in the forefront on the new green industrial revolution/ make Norway a leading nation on green innovation and technology (1,5,6) Reach the national 2020 targets of 30% emissions reduction. (1,2,35) Increase emission cuts from non-ETS sector (26,66,67)	Initiate policies and measure for a low emission *transport sector* – EVs, heavy transport, ferries, ships and shipping etc. (1,2,3,5,6,7,15,16,17,20,21,22,24,25,26,27,30,33,34,36,**66,67**) Implement/increase long-term ambitious climate policies (in Paris) (3,9,10,12,14,16,18,19,20,21,22,24,25,34,35,36**,67**) Fund and support forest and rainforest protection initiatives abroad (REDD+ etc.) (4,8,11,14,16,17,19,20,23,24,30,32,35) Development of *low-emission technology* (2,3,5,13,15,16,17,25,27,33,**66,67**) Economic measures: green taxes, polluter pays, tax incentives, quota trading, global price on carbon (3,7,10,14,15,25,27,34,35,**66,67**) Commit to increased research in and deployment of *renewable energy* technology (2,3,6,9,13,14,20,21,22,30**,67**) Commit to low/zero emission *infrastructure* (buildings, roads, railway etc.) (3,5,6,15,28,34,36,**66**) *CCS* (15,21,22,34,**66,67**) Monitor, measure and report on countries' climate action and policies over time – in line with Paris pledges (12,25,26,28,33,**66**) Improve domestic *energy efficiency* (2,3,9,14,36**,67**) Reduce emission through *flexible mechanisms*,16 – ETS, CDR etc. (9,10,14,15,19,**66**) Facilitate for, and cooperate with, business and industry to spur along the green shift (3,5**,67**) Promote and inform about possibilities related to *individual's lifestyle changes* (24,26,28) Commit policy to emission cuts in non-ETS industries (26,27,29) Use historic oil income to fund the green transition (1,20) Cut emissions from petroleum industry domestically (2, 3) Knowledge: Improve research, education and competence in new technology etc. (6**,67**) Emission cuts in agriculture – consulting, drainage, GHG storage etc. (26,**66**) Use Norway's surplus energy to power/sell to Europe (13) Transfer competence from petroleum sector to new green industry (22)	No scientific references (1,2,3,4,5,6,7,10,12,15,16,19,20,23,26,27,29,33,34) Other (3,11,13,14,22,28,31,32,**66,67**) IPCC – Assessment Reports etc. (8,9,14,17,18,25,**66**) IEA – World Energy Outlook(s): New Policy Scenario and Sustainable Development Scenario (24,**66**) *IPCC – SR15* (35,36) IRENA (**66**)	No mention of the Norwegian Petroleum industry or the question of its future – in the climate change context (1,2,4,5,6,7,8,9,10,11,12,14,19,21,24,26,27,28,30,31,33,34,35,36,**66**) Norway are and will be a leader on climate policy and measures (1,2,3,4,5,6,7,8,15,16,20,26,30,32,33,34,36) The (coming) *Paris Agreement* is/will be important. We must work for an ambitious and broad commitment (1,9,10,12,14,16,17,18,19,21,22,24) Norway acts as an arbitration and facilitation in international climate negotiation – and are therefore important (4,10,12,14,16,17,20,21,22,23,24,25) Green economic growth is an important principle for all national climate action and policy (5,6,8,9,10,13,22,25,27,**66,67**) Industries and businesses will help solve climate change and bring on economic growth through '*green shift*'/'*green growth*' principles. (5,6,8,13,21) Developed countries must take the lead on climate action (10,12,19,21,35) The oil will come to an end, but will still be important for decades to come (3,17,25**,67**) USA and China especially important (16,20,21) Norway is well suited for a green transition (26,33**,67**) The oil petroleum industry has a bright future as Norway will export oil and gas for decades to come (20,22) 1,5-degree target and SR15 set new premises for climate action – we need to increase ambition (35,36)

Table 3. Summary of narratives from the Ministry of Petroleum and Energy

Framing	Character	Goals	Means	Science	Moral of the story
The world needs more energy in the future due to an increasing energy demand brought on by population growth, urbanisation and need for economic growth (for the developing world) (37,38,39,40,41,42,44,45,46,48,49,53,54,55,59,63**,65**,**68**) *Coal* must be replaced with natural gas from Norway as a climate mitigation measure (37,41,42,45,48,49,50,55,56,57,59,60,61,63**,65**) Oil and gas: a big part of future world energy mix for decades to come (37,38,39,41,48,49,57,59,61**,65**,**68**) Job security is important in the transition context (49,50,53,54,57,59,63,64**,65,68**) Economic growth and emission reduction is *reconcilable* and securing value creation amidst climate action is important (37,41,42,49,50,57,58,59,63,**68**) Climate change is severe and must be mitigated (37,41,45,47,51,63**,65**) CCS development is key to meeting the climate target (39,40,43,44,45,60,61) Norway's oil *adventure*: proud history, great future (38,39,50,52,55,62) The Norwegian Continental Shelf (NCS) is a good place for business and industry (37 39,53,**68**) Renewables not enough to meet future energy demand (38,41,55,63) Energy, the foundation of economic growth: access to energy is important to unlock economic and social development in poorer nations (41,54,63,**68**) Norway is rich on hydro and is thus well position for a green shift (51,54,58**,65)** Climate action also gives opportunities for Norway – green shift, new industries, new economy (51,58,61) If Norway stops petroleum activity, others (worse) will fill the gap (39,59)	*Optimistic* for the future of Norwegian petroleum industry (37,38,39,40,41,46,48,50,51,53,54,56,57,60,62,63,**65**,**68**) Compliments the current, and recent work the government is doing and commends national climate action, policy and measures (40,42,45,46,47,50,51,53,56,62,64,**65**) Uses *science* substantiate arguments and position (42,50,53,54,55,56,59,**65**,**68**) Promotes opportunities for capital gain on NCS (salesman) (38,39,41,46,48,49,53,54,,**68**) Problematizes coal as an energy source and promotes Norwegian gas as its replacement (salesman) (37,41,42,45,48,49) Emphasises the importance of Norwegian petroleum to and for *Europe* (salesman) (48,56,57,61,**65**) Defensive position towards (environmental) criticism (38,42,50,59,63) Villainises environmental movement and opposing political parties (50,59) Stresses trans-/international cooperation on climate (59, ,**65**) Commends Norway's important role as arbitration in national climate negotiations (47)	Expand the petroleum industry (37,40,41,43,44,45,47,48,49,50,51,52,53,54,55,56,57,59,63,64,**68**) Meet future energy demands with Norwegian petroleum (37,39,40,41,42,44,45,46,48,49,53,54,55,56,59,61,**68**) Secure future economic growth domestically and globally (37,39,41,45,49,57,59,**68**) Reach the 1,5/2-degree target and the goals of the Paris Agreement (45,49,59,60,62,64,**65**) Meet the climate challenge (37,41,42,56,57,59,63) "Sell" oil and gas to Europe (48,49,56,57,61,**68**) Reach the national 2030 targets (with the EU) (42,61,**65**,**68**) Transition to a low-emission/sustainable society – long term (51,62,**65**) Facilitate for industries to make emission cuts and transition into low-emission activity – through polices and frameworks (green shift) (49,51,60) Contribute to climate change mitigation globally (43,45,47) Contribute to energy security and stability in Europe (42,56,**68**) Reach 2030 targets *and* continue towards a low-emission society in 2050 (51,61)	*Expand* the petroleum industry in Norway - Particularly northwards (Barents Sea, LoVeSe) (37,39,41,42,45,46,48,50,51,52,53,54,55,57,59,63,64,**68**) Help other countries replace *coal* with natural gas (37,41,42,45,48,49,55,56,57,60,63,**65**,**68**) Develop and deploy *CCS* (37,40,41,43,44,45,47,59,60,61,**65**,**68**) Provide new exploration *acreage* and *licences* on the NCS (42,45,46,50,53,54,55,56,57,**68**) Commit to increased research in and deployment of *renewable energy* technology (42,47,49,51,58,60,61,62,63,**65**) Reduce emission through *flexible mechanisms* – ETS, CDR etc. (41,45,49,56,59,60,**68**) Increase and improve efficiency and capacity of oil recovery through new technology and innovations (IOR etc.) (38,46,48,52,53,60) Improve domestic *energy efficiency* (51,58,62,63,**65**) Government to create stable *frameworks and policies* for oil expansion (52,53,55,56) Initiate policies and measure for a low emission *transport sector* – EVs, heavy transport, ferries, ships and shipping etc. (51,62,63,**65**) Invest in R&D (46,50,58,60) Invest in and develop grid and interconnectors with EU (58,61,**65**) Use Norwegian natural gas to address *intermittency* in renewable based European grids (42,56,61) Economic measures: green taxes, polluter pays, tax incentives (42,60,**65**) Work towards the implementation of a global *carbon price* (42,45,49) Fund and support forest and rainforest protection initiatives abroad (REDD+ etc.) (41) Focus on education and recruitment into petroleum sector (52)	No scientific references (37,38,39,40,47,48,49,51,52,58,60,61,63,64) IEA – World Energy Outlook(s): New Policy Scenario and Sustainable Development Scenario (41,42,44,45,50,53,54,55,56,59,**65**,**68**) IPCC – Assessment Reports etc. (41,42,43,44,**65**) IPCC-SR15 (59,**68**) IRENA (**65**)	The Norwegian petroleum sector is and will be prospering for decades to come (37,39,41,42,44,45,48,49,50,51,53,54,55,56,59,60,63,64,**68**) The government drive an offensive petroleum policy and aims to *expand* the industry in the future (38,41,48,49,50,51,52,53,54,55,56,57,59,63,64,**68**) Oil and gas is a part of the climate *solution* (coal to gas, etc.) (38,39,41,48,49,55,56,57,59,61) Norway are and will be a leading nation on CCS technologies and research – the government sees it as an important part of its climate commitment (40,43,44,45,60,61,**65**) The NCS will remain an attractive place for businesses and industries (37,39,46,53,54,55,**68**) Petroleum production on NCS is comparatively low emission (39,56,59,60,64,**68**) Sleipner and Snøhvit are success stories when it comes to CCS in Norway (37,39,40,41,43,44) Stopping oil activity in Norway will *not* contribute to climate change mitigation (42,55,56,59) The (coming) *Paris Agreement* is/will be important. We must work for an ambitious and broad commitment (41,45,47) USA and China especially important for climate change mitigation globally (41,59) Norway are and will be a leader on climate policy and measures (47,51) Norway are and will be a leader on climate policy and measures (62,**65**) No mention of the Norwegian Petroleum industry or the question of its future (58)

6. Discussion

In the upcoming chapter, I will revisit both the background and the theory chapter and illuminate some key point relevant to the findings of the analysis. I will attempt to reconceptualise the current climate change context by looking at some key trends in global emissions and policies and put them up against the scientific reality presented in the SR15. Throughout the chapter I will also be considering how the official Norwegian narratives found in the analysis aligned with the pressing climate conundrum, so explicitly stated in the SR15, thus addressing whether the Norwegian ambitions, self-complementation and optimism is in line with the urgent climate action required to limit climate breakdown. This perspective will also include the question of the Norwegian petroleum sector in the context of climate change mitigation, that has been conveniently dodged by the MCE in the period of inquiry. Is there, for example, an alternative to expanding the petroleum sector? In other words, the discussion will be an attempt to contextualise the official Norwegian climate narratives within the current climate change reality, evident from the findings of the SR15.

6.1 Facts, trends and uncertainties: the reality of climate change

As I have summarised in section 2.5, the SR15 clearly shows the immense global response required to reach 1.5°C and prevent dramatic climate breakdown (IPCC, 2018a). At the same time, transition theory (section 2.7) suggest that the required transitions for reaching the target might take a long time. Too long if we consider the timeframe set in the SR15:

> "*Under emissions in line with current pledges under the Paris Agreement (known as Nationally Determined Contributions, or NDCs), global warming is expected to surpass 1.5°C above pre-industrial levels, even if these pledges are supplemented with very challenging increases in the scale and ambition of mitigation after 2030 (high confidence). This increased action would need to achieve net zero CO_2, emissions in less than 15 years. Even if this is achieved, temperatures would only be expected to remain below the 1.5°C threshold if the actual geophysical response ends up being towards the low end of the currently estimated uncertainty range. Transition challenges, as well as identified trade-offs, can be reduced if global emissions peak before 2030 and marked emissions reductions compared to today are already achieved by 2030*" (Rogelj et al., 2018, p. 95).

What this means is that global GHG emissions will have to peak as soon as possible, but alas, according to the UNEP Emissions Gap Report of 2018, greenhouse gas emissions show no sign of peaking (UNEP, 2018). Followed by three yours of stagnation, the global average emissions increased again in 2017, largely due to a rise in emission from industry and energy (in China and India). In other words, the trend is moving in the wrong direction. The UNEP report also conclude that, while the NDC pledges from individual countries in the Paris Agreement is a decent start for indicating the required transitions, it is far from consistent with reaching the 1,5/2°C target as, with full implementation of the current NDC, global warming would be limited to 3,2°C in 2100 (UNEP, 2018). If we also factor in the recent and expected trends in emission from the biggest culprits in this context, namely China and India (and also Indonesia) with rapid and high emission growth over the last decade, coupled with the uncertainties related to the USA and the Trump administration's intent to "withdraw from the Paris Agreement unless it can identify suitable terms for reengagement" (UNEP, 2018, p. 15) and the uncertainties associated with Brazil under President Jair Bolsonaro in terms of a increasing trend of deforestation under Bolsonaro's aggressive Amazon policies for land and forest area exploitation (Brito, Barreto, Brandão Jr, Baima, & Gomes, 2019; UNEP, 2018, p. 12).

If the newly elected Brazilian President's intent regarding the destruction of the rainforest come to fruition in the next years, the rest of the world will have to commit immensely to forest protection and afforestation in other regions to approach the amount of trees required to meet the levels of BECCS and/or afforestation in the SR15 scenarios consistent with reaching the 1.5°C target (see section 2.6) (Rogelj et al., 2018). The importance of implementing sustainable land-use, halt deforestation and increase afforestation in emphasised in the IPCC narratives as it is framed both as the key area for food production (for the growing world population) and as a climate mitigation measure (Rogelj et al., 2018, p. 144). Forests act as carbon sinks and currently absorb around 2 billion tonnes of CO_2 yearly, while deforestation, soil-use and livestock from agriculture are responsible for just under a quarter of anthropogenic greenhouse gas emissions (FAO, 2018; Rogelj et al., 2018) However, the Food and Agriculture Organization of the UN (FAO) note in their 2018 report on the state of the world's forest, that even though there have been some improvements in the political efforts to reduce deforestation globally, the trend is still showing a yearly increase in global forest loss

due to human-economic activity (FAO, 2018). The FAO data are summarised in the UN Environment Outlook 2019 thus:

> "*Forests continue to decline (Figure 8.14). In 1990, they represented 31.6 per cent of the planet's land area. This decreased to 30.6 per cent in 2015 (FAO 2015a), but forest loss rates are declining. In the 1990s, about 10.6 million ha of natural forests were lost each year. For the period 2010-2015, this rate had dropped to 6.5 million ha/year. At the same time, the increase in planted forests was about 3.2 million ha/year; by 2015 they accounted for 7 per cent of the global forest area mostly concentrated in high-income countries*" (UN, 2019).

By abandoning the policies that have worked in favour of decreasing the rate of global forest loss in the period between 2010-2015, one allows for the positive trend to reverse – especially considering the Amazon – the largest rain forest on the planet. Comparing the current trend in global forest loss with the requirements stated in the SR15 for limiting global warming to 1.5°C can give a valuable perspective on the apparent climate reality.

> "*Pathways that limit global warming to 1.5°C with no or limited overshoot project a 4 million km2 reduction to a 2.5 million km2 increase of non-pasture agricultural land for food and feed crops and a 0.5–11 million km2 reduction of pasture land, to be converted into 0-6 million km2 of agricultural land for energy crops and a 2 million km2 reduction to 9.5 million km2 increase in forests by 2050 relative to 2010 (medium confidence). Land-use transitions of similar magnitude can be observed in modelled 2°C pathways (medium confidence). Such large transitions pose profound challenges for sustainable management of the various demands on land for human settlements, food, livestock feed, fibre, bioenergy, carbon storage, biodiversity and other ecosystem services (high confidence)*". (Rogelj et al., 2018, p. 97)

To put some of these figures into relative terms: 2,5 million km2 equals approximately the size of Sudan, 9,5 million km2 is about the size of China while 11 million km2 equals the

combined size of 3,5 Indias. In other words, a massive transition in land-use is required to meet the 1.5°C target.

President Bolsonaro thus represents an uncertainty factor in the climate context, and although uncertainties are not facts, they need to be considered when assessing the feasibility of reaching the climate targets considering the relevant climate scenarios. In this context, "(i)t is important to regularly re-assess the relevance of emissions scenarios in light of changing global circumstances" (G. Peters et al., 2013, p. 1). This quote from Peters et.al, express in many ways the essence of what I aim to do in this discussion.

In section 2.5, we saw how reaching the 1.5°C target for global warming is contingent on some key factors for reducing emissions substantially. In addition to the vast transition in land-use and forest growth described above, the world community also must achieve an energy transition of immense scale and within a historically unheard-of timeframe. And crucially, there must also transpire an unprecedented growth in the implementation of Carbon Dioxide Removal (CDR) technology and measures. Afforestation is a significant method for CDR, alongside CCS and Direct Air Capture (DAC – which play a relatively modest role in SR15 scenarios) (Rogelj et al., 2018). However, as we saw in section 2.5, CCS does not show promise considering the scale it has to operate on, in such a short amount of time and there are many uncertainties considering CCS technology – often related to price, risk association and public scepticism (Moe & Røttereng, 2018). Moe and Røttereng argue that the limits and uncertainties of CCS technology are evident in the fact that "almost no CCS plants were built in the 2000s" (Moe & Røttereng, 2018, p. 204). Although there is no predicting the future, CCS growth of the scale shown in section 2.6 is highly unlikely.

Additionally, other trends also seem to point in the wrong direction. Firstly, studies show that fossil emissions rose in 2018 from 2017 levels, as did the concentration of CO_2 in the atmosphere (Le Quéré et al., 2018). The IEA argue that the global rise in emissions in 2018 was driven by a rise in energy consumption and energy demand – of which gas and renewable followed by oil contributed mostly to the growth (IEA, 2018). The 4.6% rise in natural gas consumption – the largest rise since 2010 – along with increased demand in coal

and oil, was the main driver behind the rise in the energy-related CO_2 emissions which represented a historic high of 33.1 Gt CO_2 (IEA, 2018, p. 3).

In the context of global climate change mitigation, there is also bad news in relation to the status of countries prospects in reaching their NDCs and meeting the ambitions set within the framework of the Paris Agreement. According to the UN Environment's Emission Gap Report 2018, many countries are not on track to fulfil their NDCs (UNEP, 2018):

> "*At present, the G20 countries are collectively not on track to meet their unconditional NDCs for 2030. Around half of the G20 members' GHG emissions trajectories fall short of achieving their unconditional NDCs (Argentina, Australia, Canada, EU28, the Republic of Korea, Saudi Arabia, South Africa and the USA). Three G20 members (Brazil, China and Japan) are on track to meeting their NDC targets under current policies, while emissions under current policies of three additional countries (India, Russia and Turkey) are projected to be more than 10 percent below their unconditional NDC targets. This may, in some cases, reflect relatively low ambition in the NDCs. It is uncertain whether two countries (Indonesia and Mexico) are on track to meeting their NDC targets in 2030 under current policies.*" (UNEP, 2018, p. XVII).

What all this point to, then, is a damning notion that the global average temperature will likely rise well above 1.5°C and 2°C before the end of the century. This notion is increasingly dawning on scholars within the field of climate change (See for example: Mac Dowell et al., 2017; Moe & Røttereng, 2018; G. Peters et al., 2013; Sanford, Frumhoff, Luers, & Gulledge, 2014) This is exemplified below Nobel Prize-winning economist William Nordhaus concluded in his 2018 study updating the results on the prospects of climate change how:

> "*The results pertain primarily to a world without climate policies (business as usual), which is reasonably accurate for virtually the entire globe today. The results show rapidly rising CO_2 concentrations, temperature changes, and damages. Moreover, when the major parametric uncertainties are included, there is virtually no chance*

that the rise in temperature will be less than the target 2°C even with immediate, universal, and ambitious climate change policies" - (Nordhaus, 2018).

I would also argue that the immensity of the challenge with the infeasibility it entails, is the key message of the IPCC's SR15 as its narratives recurrently allude to the contradictions involved in in the scenarios consistent with limiting global warming to 1.5°C.

6.2 Norway's climate policies

So how does the official Norwegian climate narratives fit into this apparent climate reality? Are the ambitions, rhetoric and strategies of the MCE and the MPE in line with what is required to limit global warming to 1.5°C? Or can the Norwegian climate approach also be framed in the 'business as usual' category that Nordhaus alludes to in the aforementioned quote?

Norway is pledged to the 1,5- degree target through the Paris Agreement. The government has also bound itself legally to reaching the domestic 2030 target through the 'Climate Law'(MCE, 2016-2017). Government representatives have also been an active and offensive voice in international climate negotiations and talks for many years, and in many ways taken the self-proclaimed role of 'world leader on climate action' – as in line with the findings of the analysis (section 5.2.1). Additionally, Norway's climate mitigation policies are interlocked with the EU's and thus the government's stakes are even higher considering meeting the emission-reduction targets as it would affect the progress of the EU in this capacity.

In the context of the Paris agreement, the Norway–EU relationship and Norway's role as a leader on climate action, the case becomes very clear for the Norwegian government: Norway must meet it's 2030 target. Thus, the question becomes evident: is Norway on track to meets its 2030-target of 40% emission reduction compared to 1990 levels? The first indication of how Norway is doing in this respect is found by in the historical, yearly, emissions statistics.

These, however, offer some rather dismal reading: emissions of GHGs has gone up by 3,4 percent since 1990, and despite a slight dip in emission between 2015 and 2017, emissions increase again by 0,4 percent in 2018 (SSB, 2019a). The emission increase in the period is largely driven by a stark increase in energy supply, expansions in the petroleum sector (where emissions have gone up with 75,6% since 1990) and a surge in transportation – especially road traffic and aviation. Additionally, Norway is one of the largest CO_2 emitters *per capita* in Europe (and the world), this is in spite of a nearly fully decarbonised energy grid and not counting the exported oil and gas resources which would have made per capita emissions ten times higher (Nordic Energy Research, 2012; World Data Atlas, 2018). Hence, so far trends seem to point in the wrong direction if the goal is to reach the 2030-target. The current trend in Norwegian emissions is also quite troubling in light of the imminent 2020 target aiming to reduce emissions by 30% (Gullberg & Aakre, 2015) – framing this as 'unfeasible' would be an understatement.

In additions to mapping recent and current trends in GHG emissions, Peters et al. (2017) identify 1) changes in GDP, 2) CCS deployment, 3) growth in renewables in the energy mix and energy efficiency as key indicators to track progress and ambitions in climate change mitigation (Glen P Peters et al., 2017). Firstly, considering GDP, Norway's economic growth is especially interlocked with increased emissions as the main export is fossil fuels. Thus, growth in GDP from fossil fuel activity and export is logically ensued by increased emissions. According to statistics GDP has steadily increased since 2009 – with a slight dip in 2016 due to a period of recession in the petroleum industry (SSB, 2019b). In September 2018, Statistics Norway (SSB) also heralded the trend of increased growth in the Norwegian economy (SSB, 2018).

Secondly, considering CCS, the data analysis show that CCS deployment is a key strategy for Norway in terms of reaching the climate targets. Accordingly, Norway has, in absolute terms, allocated more money to CCS than any other country (Moe & Røttereng, 2018). Thus, Norway emerges as the biggest supporter of CCS (closely followed by Canada), which is both in line with prevailing climate narratives (section 2.5.7) and strategy. However, scholars argue that the relative prowess of Norway in CCS funding is more a testament to the lack of CCS support globally that a particularly strong CCS policy in Norway (Moe & Røttereng, 2018;

Røttereng, 2016), and "exposes the underdeveloped or symbolic nature of the effort during the 2007–2014 period" (Røttereng, 2018a, p. 54). Considering the immense weight put on the shoulders of CCS in the SR15 scenarios consistent with 1.5°C, the fact that only a few nations (Norway, Canada and Japan) have CCS as part of their NCD strategies speak volumes to the disparity between the scale of CCS needed, and the amount of CCS expected to be developed within the next decade.

Studies also find that the Norwegian governments CCS policy is designed to bridge the potentially conflicting agendas between global climate change action demands, and domestic economic and energy demands (Røttereng, 2016). In other words, Røttereng (2016) argue that;

> *"Norway's CCS policy makes a remarkable solution to the dilemma of how to reconcile a petroleum exports-based economy with an ambitious mitigation policy. It exposes how climate politics in Norway is not an exercise in domestic politics or international bargaining alone. Instead, it is about finding legitimate solutions that simultaneously appeal to the norms that matter within each of the political systems… in its essence, it is foreign policy"* (Røttereng, 2016, p. 476).

Similarly, Tjernshaugen & Langhelle (2009) framed the Norwegian government's CCS policy as an example of technology as 'political glue' used to reconcile climate policy with domestic economic growth from petroleum activity (Tjernshaugen & Langhelle, 2009). Thus, in response to the research question framing Norwegian narratives as a 'shield' for the petroleum industry (RQ4), some scholars would argue that this also applies to the Norwegian climate policies themselves. Furthermore, considering the scale of CCS needed to be in line with the 1,5-degree target according to the SR15 (see section 2.6), Norway's contribution is rather insignificant. If all 193 member nations of the UN were at the same level of current CCS deployment as Norway, there could potentially be required approximately 3600 more CCS facilities globally by 2030 – according to the scenarios with the highest growth rate of CCS (Glen P Peters et al., 2017).

Studies have also found there to be a strong correlation between CCS support and REDD+ funding, and that Norway's climate policy is an example of this (Hermansen, 2015). Norway is one of the biggest financial supporters of the REDD+ initiative designed to protect forest areas from unsustainable land-use and deforestation. In 2007 the former Norwegian Prime Minister Jens Stoltenberg announced that Norway would pledge an annual USD500 million (3 Billion NOK) grant to the REDD+ initiative in the period 2008-2012 (Hermansen, 2015). In 2018, Norway remained one of the major contributors to the REDD+ as well as the leading nation on CCS support (Røttereng, 2018a). As CCS is argued to be strategized as a harmonising 'glue' between petroleum (economic) activity and climate action, literature also suggests that this is in large the case and function of the Norwegian governments REDD+ funding (Moe & Røttereng, 2018; Røttereng, 2018a, 2018b). Røttereng (2018) argue how both REDD+ and CCS is, in essence, foreign policy from Norway, design to shield the petroleum sector and thus continued economic growth domestically:

"*…studies of Norway have shown that this country's CCS and REDD+ strategies in part were due to a consensus-oriented parliamentary system trying to bridge the needs of an influential petroleum sector with an ambitious emissions target (Hermansen 2015; Roettereng 2016)*" (Røttereng, 2018a, p. 57).

Thirdly, in considering renewables, the picture is a bit mixed when it comes to the Norwegian status, partly due to Norway's high renewable share in the power grid from hydro, and partly due to the increasing electric/hybrid car fleet in Norway as a result of effective and multi-layered policies – according to statistics, almost every second new car bought in Norway in 2018 was an EV or hybrid (EV Norway, 2018). In spite of a relatively high percentage of renewables in the energy mix, Norway has committed to the EU's 20-20-20 target which implies a 20% increase in renewables, 20% increase in energy efficiency and 20% reduction in GHGs by 2020 (Blindheim, 2015). Thus, the Norwegian government have strategised for an increased commitment to renewable energy sources both in power generation, transport sector and the heating and cooling sector. However, studies show there would not be any significant impact on the domestic GHG emissions were the target of renewables implementation to be met, mainly due to the fact the electricity production is already close to carbon neutral and the electricity consumption is not expected to increase. Additionally, the

slight emission decline in the heating and cooling sector would be offset by a slight rise in the transport sector (Blindheim, 2015). The surplus energy from new renewable sources would, according to Blindheim's, (2015) study, however, have an emission reduction effect were it to be used for phasing out carbon-based energy production in the petroleum sector, thus reducing emissions in oil and gas extraction (Blindheim, 2015, p. 213). There is also an argument for sending the surplus energy to Germany, thus making Norway a 'green battery' for Europe (Gullberg, Ohlhorst, & Schreurs, 2014). This is in some of the prominent MPE narratives found in the data analysis (see section 5.3.8 and 5.5.17). However, as Gullberg et al. (2015) argue, the 'green battery' idea seems to lack both public and political support as well as market support in Norway (Gullberg et al., 2014, pp. 220-221).

By taking all these factors into account a rather damning conclusion emerges: Norway is not on track to reach the 2030 target, thus not complying with the NDC of the Paris agreement and sufficiently contributing to climate change mitigation. Emissions are still increasing, CCS deployment is far from the level required to be in line with emission targets, the economy is not decoupled and still growing in line with the petroleum industry and emissions from it and renewable deployment does not have a significant effect on emission reduction. When the fact is laid bare thus, it becomes evident that Norway will still struggle to reduce emissions without significant emission reduction from oil and gas extraction and exploitation (28% of total emissions) either from 1) a vast deployment of CCS in the petroleum sector or, 2) a gradual but relatively swift downscaling of oil and gas exploitation. Additional emission cuts must also be made in transport and road traffic as well as in industry. The independent research project Climate Action Tracker (CAT) also reached the conclusion thus;

> " *We rate Norway's currently implemented policies "Highly insufficient" - emissions are projected to decrease by only 7% in 2030—a far cry from its 2030 NDC target of "at least 40%" below 1990 levels. Norway's currently implemented policies are not consistent with the Paris Agreement and are instead consistent with warming between 3°C and 4°C if all others followed a similar level of ambition*" (Climate Action Tracker, 2018).

The Climate Action Tracker project also rate Norway's *intended* NCDs as "insufficient" for reaching the 2030 target and being consistent with the Paris target of limiting global warming to 'well below 2°C' (Climate Action Tracker, 2018). Thus, the current Minister of climate and environment Ola Elvestuen was arguably correct in his assessment at the UN Climate Conference in Katowice in 2018 that "we must increase our ambitions by 2020. If not, the goal of the Paris Agreement will fall out of reach" (Appendix: 35).

6.3 Economic growth as a dominant narrative – a poststructuralist perspective

In this section, I will discuss the feasibility of green growth in the context of the message of the SR15. I will look into the role and possibilities of green growth in Norway as a way to address the central role of the green growth and its sister concepts 'green competitiveness' and 'green shift' in the official climate discourse – found in the data analysis. Throughout the discussion, I shall adopt a poststructuralist perspective on narratives and discourses and attempt to illuminate the structures and actors involved in promoting the success of these narratives.

Since the emergence of the Sustainable Development concept 1987, economic growth has arguably been a pillar within climate change narratives and a premise for most climate policies both in Norway and internationally (Wanner, 2015). Brundtland stated the importance of continued economic growth within the planetary boundaries (WCED, 1987) while the Kyoto Protocol, which dictated international and domestic climate action from 1997, arguably embraced neoliberal values and growth principles (Driesen, 2008). The data analysis in this thesis also finds that economic growth principles are central to both the MCE's and the MPE's narratives. Adopting a Foucauldian discourse perspective (see section 3.3), I argue that economic growth can be viewed as a discursively embedded "truth" to our society which holds economic growth as a central ambition for all acts of decision and policy making. In a way, striving for economic growth, either as an individual or as part of a collective (businesses, community etc.) is seen as "normalized" (Segal, 2003) behaviour in today's society. Growth as ambition is also relevant for the official Norwegian narratives and is also evident in most Norwegian climate policies (see section 6.1). In the Norwegian context, economic growth ambitions are especially visible in the "protection" of the petroleum sector and the climate strategy based on its expansion as proclaimed by the MPE. Most evident,

however, is the *green growth* narrative that recurrently feature in the MCE data sources – and some MPE data. Jacobs (2012) note that 'green growth' is in many ways a continuation of the Sustainable Development concept (Jacobs, 2012). The official institutions historically concerned with the Sustainable Development narrative has become increasingly concerned with the concept of green growth and institutions such as the OECD, the World Bank and the UN have in recent years adopted green growth as a strategy for achieving sustainable development (Jacobs, 2012; OECD, 2011; UNEP, 2011; World Bank, 2012). The endorsement of the green growth concepts within these authoritative, policy-defining institutions is a testament to the increasing dominance of the green growth narrative within the climate discourse. Wanner (2015) goes a bit further and argue that green growth is an extension of neoliberalism and a way for capitalism to adjust itself to climate change (Wanner, 2015). Thus, Wanner frames green growth as *the* 'new economic paradigm' aiming for a 'neoliberalisation' of nature which entail rebranding nature as 'natural capital' that can be invested in, in the green economy (Wanner, 2015, pp. 33-34).

6.3.1 Green growth as a socio-political paradigm

> "*The Ministry of Peace concerns itself with war, the Ministry of Truth with lies, the Ministry of Love with torture and the Ministry of Plenty with starvation. These contradictions are not accidental, nor do they result from ordinary hypocrisy: they are deliberate exercises in doublethink*" – (George Orwell: 1984, 1949).

"Politics can be characterised as the management of contradictions" (Goulden, Ryley, & Dingwall, 2014, p. 139) and climate policy is no exception. Through the green growth paradigm, the Norwegian government aim to merge emission reduction, energy demands and petroleum expansion under the overarching assumption that economic growth is reconcilable with climate change action through a low carbon transition, and consistent with reaching the 1.5°C target. The green growth paradigm asserts that economic expansion is compatible with the planet's ecology through the mechanism of *decoupling*[5] the GDP growth from carbon

[5] *Decoupling* refers to a separation (or decoupling) of economic growth from GHG emissions, often especially related to energy production (Hickel & Kallis, 2019; Höök, Sivertsson, & Aleklett, 2010). There is a distinction between 'relative' and 'absolute' decoupling that is important to note. "'Relative decoupling' means a decline in resources used or environmental impact per unit of economic output over time; whereas 'absolute decoupling'

emissions – through technological transitions based on CDR and renewable energy technology. However, studies find that there is no empirical evidence to support the theory of green growth as a realistic means to reach the 1,5°C target as "absolute decoupling from carbon emissions is highly unlikely to be achieved at a rate rapid enough to prevent global warming over 1.5°C or 2°C, even under optimistic policy conditions" (Hickel & Kallis, 2019, p. 1). Additionally, further research on green growth in the Nordic countries has found that there is no empirical evidence for historic green growth in Norway, in contrast to some relative success for green growth in the other Nordic countries (Anderson & Bows-Larkin, 2013; Stoknes & Rockström, 2018). The main reason for Norway's underachievement in green growth, despite its centrality in most climate-related policies, was found to be due to the emissions from the offshore oil and gas production (Stoknes & Rockström, 2018, p. 44).

In a way, government and state actors have become locked-in to an economic growth paradigm where growth is largely based on activities that result in high GHG emissions. Decoupling from these emissions to ensure continued economic expansion will require large socio-technical transitions, where low emissions technology rapidly replace incumbent systems (Hickel & Kallis, 2019). However, as transitions theory suggests (see section 2.7) transitions generally take a long time and many of the relevant incumbent systems have become *locked-in* to the socio-economic dynamics of society (Kuzemko et al., 2016; Smil, 2016; Sovacool, 2016; Unruh, 2000). Oil and gas producing countries like Norway can be said to be victims of an even deeper lock-in with the petroleum-based high-emission systems. In addition to being locked into social and infrastructural high-emissions systems (transport and mobility systems, energy, industry etc.), I argue that Norway is also *economically* locked-in to high emissions through the petroleum sector. This is supported by the findings of Stoknes and Rockström (2018) and the reality of the Norwegian increase in carbon emissions from 2018 in line with the rise in GDP (SSB, 2018, 2019a, 2019b; Stoknes & Rockström, 2018). In summary, continued economic growth that is consistent with reducing GHG emissions and within the boundaries of the planet's ecology and sustainable exploitation of resources (green growth) seems unlikely for Norway as long as the petroleum sector remains the backbone of the country's economy. In other words, as long as the petroleum sector is not

refers to a decline in resource and environmental impact in absolute terms with growing economic output" (Wanner, 2015, p. 30) The success of green growth thus rests on the assumption that absolute decoupling is possible (Hickel & Kallis, 2019; Wanner, 2015)

rapidly decarbonised by technological innovations and CDR technology, green growth will be an elusive realisation for Norway. However, as the findings of the data analysis suggest, green growth remains a key strategy and goal for the Norwegian government in the climate change context.

Adopting a poststructuralist perspective, one can argue that the seemingly unwavering green growth paradigm in Norway is an expression of the dominant social and economic narratives of contemporary society and climate science. Poststructuralists maintain that the power in modern societies does not come from a single authoritative source but is rather a sort of product of the many narratives, coming from numerous sources, within discourses (see section 3.1 and 3.3). Foucault particularly, was opposed to the dominant narratives of 'history', claiming how 'history' is defined as a linear journey where any given historical moment is a result of the progress made from human's ability to rationally learn from previous moments, thus incorrectly (in Foucault's view) comparing history with progress (Fraser, 1981; Lemke, 2001). To Foucault, any given moment in history is defined and shaped by the dominant narratives of that time which transcend all perceive barriers in society. Hence, in a way, anyone can influence any other individual or group of individuals through narratives, leaving the power held by authoritative institutions as a mere expression and result of the dominant narratives and the rationales within an overarching discourse (Dreyfus & Rabinow, 2014; Foucault, 2012; Fraser, 1981; Olssen, 2003; Zembylas, 2005). Eventually, the most dominant narratives become the paradigms within society that can create stringent socio-economic systems and even influence individual's ontologies – ways of relating to and seeing the world. Thus, in terms of 'power', it makes more sense, in a poststructuralist view, to talk about powerful discourses and narratives, than powerful individuals.

Poststructuralist theory does, however, hold that there are some individuals – or groups of individuals – who possess more power is a given context than others. These are, however, not necessarily the bodies of political or judicial authority, but rather the groups and communities in a position to shape and justify narratives (Dreyfus & Rabinow, 2014; Fraser, 1981). In the climate change context, these groups can often be the *epistemic communities* (section 3.4) concerned with climate science and creating pathways for societal transitions and climate change mitigation. The IPCC and the IEA arguably represent such communities. Assuming

the Foucauldian concept of Power, these epistemic communities can be seen to act as the key in changing narratives, locking in old ones or producing new (Fraser, 1981). Hence, through the various future climate and energy scenarios, institutions such as the IPCC and IEA can both create narratives and justify the incumbent socio-economic paradigms which the institution are subjected to. These narratives arguably become dominant in the political climate change context as they represent the 'best available science' on climate change and communicate possible pathways for global climate change mitigation (Glen P. Peters, 2016). The IPCC scenarios especially play a central role in informing policy as they attempt to map out 'feasible' ways of reaching the climate mitigation targets within a collection of expected future trajectories of changes in "demographics, human development, economy and lifestyle, policies and institutions, technology, and environment and natural resources" (O'Neill et al., 2017, p. 169). Considering economic growth assumption in the SR15 scenarios, *all* 90 scenarios consistent with meeting the 1,5°C target assume high or moderate future economic growth (Huppmann et al., 2018). In a poststructuralist perspective, the IPCC's economic growth assumption can be seen as an expression of the current scientific paradigm in which the IPCC subsist, wherein the economic growth narrative that has been central since the emergence of the Sustainable Development concept holds a defining role within the scientific discourse (Wanner, 2015). In other words, the SR15 scenarios can be said to be underpinned by a paradigm of continued economic growth. The economic growth paradigm is also resonated in the green growth narrative of the UNEP, World Bank and OECD (OECD, 2011; UNEP, 2011; World Bank, 2012), exemplifying how the paradigm has come to dictate most of the multilateral institutions that are central in policy making and socioeconomic development. In a world where power comes from narratives within discourses, these global organisations arguably hold significant power.

By adopting a poststructuralist perspective, I argue that economic growth paradigm in the official Norwegian context is not an isolated occurrence, but rather an echo of broader socio-economic paradigms. These narratives evidentially become even more entrenched by justification from epistemic communities enthralled within the same paradigm. This relation between the Norwegian ministries, epistemic communities and broader socioeconomic paradigms is an example of the power structures of today's society, in the Foucauldian (poststructuralist) sense. It might be tempting to see these power structures as a negative phenomenon, but to the poststructuralist, they are merely an understanding of the way of the

world (Segal, 2003). However, considering the incompatibleness between green growth and a 1.5°C world argued above, the frequent re-justification of the green growth narrative might prove to counterproductive for climate change mitigation. In this context, Höök et al. (2010) note that:

> "*perpetual economic growth is only an extrapolation from history, not a law of nature… However, perpetual growth is often held as a pious belief and fundamental assumption for economists. Perpetual growth cannot be used as an underlying assumption for non-renewable energy sources, such as fossil fuels*". (Höök et al., 2010, p. 79)

As is the case with CCS and other CDR technology the problem with committing almost blindly to green growth is the scope and pace required of decoupling in order to reach the 1,5°C target. Hickel & Kallis (2019) hold to the same argument as they show some trends in decoupling over the last decade, particularly in high-income countries (Hickel & Kallis, 2019, pp. 8-12). Thus, it is not the realisation of green growth through absolute decoupling that is unlikely, but the scale and time frame in which it must occur if global warming is to be limited to 1,5 °C (Hickel & Kallis, 2019). However, taking into consideration the immense transition required as described in the SR15, and the complexities and longitude relative to these vast transitions according to transition theory, green growth seems unlikely as its success is so dependent on rapid decoupling.

Considering the Norwegian context and the high recurrence of green growth narratives I argue that, due to the dependency of decoupling for green growth, the goal of petroleum industry expansion is not reconcilable with the concept of green growth. Thus, contradictions in the official Norwegian narratives occur.

7. Conclusion

"*The signal given from the IPCC special report on 1,5 degrees is loud and clear: the target is still within reach, but the coming years are critical.* ***We must increase our ambitions by 2020. If not, the goal of the Paris Agreement will fall out of reach***". – Norwegian Minister of Climate and Environment Ola Elvestuen, COP24 Katowice, 2018 (Appendix: 35).

In summary, the analysis found several prevailing narratives within the relevant political setting and a high degree of consistency and correlation between the narratives of the Ministry of Climate and Environment (MCE) and the Ministry of Petroleum and Energy (MPE). The data suggested, however, that the MPE narratives were slightly more consistent over time than the MCE's narratives, which tended to be more prone to change due to influence from the Paris agreement and the SR15 discourses. The most prevailing narratives were characterised by their positive framing of Norway's prowess as a climate change mitigator and international arbitrator and optimistic on behalf of Norway's future as both a petroleum producer and a low-emission society. Other prevailing narratives focused on adaptation, stressing the urgency a and risk related to the climate change issue. There was also a strong narrative theme revolving around the 'coal to gas' argument from the MPE, which held Norwegian gas as a solution to the global climate change issue. The analysis also suggested that there exist some form of 'narrative distribution' between the two ministries in relation to the mentioning of the petroleum sector. This was evident in the fact that the MCE almost never factored in the question of the future of the petroleum sector in their climate change narratives, whilst the MPE framed the industry as a part of the solution to the climate conundrum. The analysis also found that ambitions for continued economic growth underpinned most of the prevailing official narratives. Both ministries were shown to intend to reconcile both economic growth, climate change action and petroleum sector expansion.

The IPCC's SR15 show that, to limit global warming to 1.5°C, vast and comprehensive socio-technical and socioeconomic transitions must occur rapidly as global emissions need to peak as soon as possible. Alas, the thesis point to some constraints for achieving the rapid transitions required that will likely hinder the accomplishment of the 1.5°C target. The underdeveloped state and slow growth in CDR technology, for example, was argued to represent a major uncertainty for climate change mitigation. Current trends and levels

regarding CCS and BECCS technology especially were shown to be highly inconsistent with what levels described by the SR15 to reach the 1,5°C target. The thesis also points to the high carbon lock-in concerning the energy system that drives the currently increasing global GHG emissions. Additionally, the thesis argues that committing to green growth as the main strategy for meeting the climate change issue, achieving sustainable development and reaching the 1,5°C target (OECD, 2011; UNEP, 2011; World Bank, 2012) is somewhat misguided, as decoupling the economy from emissions seem unlikely within the timeframe relevant for a 1,5°C world.

Secondly, the thesis adopts a poststructuralist perspective and argues that narratives are important in the climate change context as they are key drivers within processes of social and political change and thus highly relevant for transitions. Looking at the Norwegian climate change response, the thesis found that prominent official Norwegian climate change narratives are contingent on the broader socioeconomic discourse of economic green growth, which arguably has come to dominate the political and scientific paradigms. However, as green growth is dependent on decoupling the economy from emissions, I argue that achieving a green economy in Norway is not reconcilable with ambitions of petroleum expansion. Hence, the official growth narratives in Norway are subject to contradictions as it is unlikely to achieve a green economy while expanding the petroleum industry *and* be in line with the 1.5°C target. This argument is substantiated by the underdeveloped nature and uncertainties related to CCS technology and the fact that Norway's domestic emissions are still increasing. The thesis has also shown how current and intended policy responses to climate change are not enough to meet the domestic 2030-target for Norway and hence inconsistent with limiting global warming to 1.5°C.

Thus, I conclude that the current minister of climate and environment Elvestuen is correct in his assessment that the ambitions for climate change action must be increased if the goals of the Paris agreement are to be achieved. For Norway however, I argue that new ambitions must seek to question the economic reliance on petroleum in the future to be in line with the climate reality described in the SR15. Expanding the petroleum industry is not reconcilable with neither green growth nor a 1.5°C world, and only by illuminating these contradictions may the Norwegian government be able to lay a new path for climate action, in line with

reaching the 1.5°C target. In a poststructuralist perspective, however, this might prove difficult as long as official Norwegian narratives and climate policies are underpinned and subjected to the currently dominant socioeconomical paradigm defined by a pursuit of economic green growth. Thus, the thesis argues that solving the climate change issue and reaching the 1.5°C target might depend on a broad paradigmatic shift brought on by narratives that re-define the nature-economy relationship, effectively changing the way in which the global community meets the challenge.

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Appendix

Ministry of Climate and Environment

1. **Innlegg: Norge leder an**
   VG, 19. november 2013

   27.11.2013

   Speaker/writer: Sundtoft, Tine

   From <https://www.regjeringen.no/no/aktuelt/innlegg-norge-leder-an/id746646/>

1. **Replikk: Klimaproblemet møtes med klimatiltak**
   Aftenbladet 23. november 2013

   27.11.2013

   Speaker/writer: Sundtoft, Tine

   From <https://www.regjeringen.no/no/aktuelt/innlegg-klimaproblemet-motes-med-klimati/id746641/>

2. **Tale: På sporet av lavutslippssamfunnet**
   Regjeringens klimadugnad 13. mars 2014

   13.03.2014

   Speaker/writer: Sundtoft, Tine

   From <https://www.regjeringen.no/no/aktuelt/lavutslippssamfunnet/id753009/>

3. **Replikk: Blant de mest konstruktive i Warszawa**
   Fædrelandsvennen 24. november 2013

   27.11.2013

   Speaker/writer: Sundtoft, Tine

   From <https://www.regjeringen.no/no/aktuelt/innlegg-blant-de-mest-konstruktive-i-war/id746640/>

4. **Tale: Klima- og miljø i næringslivet – klima- og miljøministerens perspektiver**
Frokostmøte i Kristiansand, 17. januar 2014

31.01.2014

Speaker/writer: Sundtoft, Tine

From <https://www.regjeringen.no/no/aktuelt/tale-klima--og-miljo-i-naringslivet--kli/id750181/>

5. **Kronikk: Norge må styrke sin grønne konkurransekraft**
Nordlys, 18. februar 2014

19.02.2014

Speaker/writer: Sundtoft, Tine

From <https://www.regjeringen.no/no/aktuelt/kronikk-norge-ma-styrke-sin-gronne-konku/id751448/>

6. **Innlegg: Klimapolitikk i virkeligheten**
Aftenposten 19.05.14

20.05.2014

Speaker/writer: Sundtoft, Tine

From <https://www.regjeringen.no/no/aktuelt/Innlegg-Klimapolitikk-i-virkeligheten/id760078/>

7. **Opening statement: Breaking the Climate Stalemate**
Ny-Ålesund Symposium 26 May 2014

27/05/2014

Speaker/writer: Sundtoft, Tine

From <https://www.regjeringen.no/en/aktuelt/Opening-statement-Breaking-the-Climate-Stalemate/id761061/>

8. Speech: Ministerial meeting, ADP
Bonn Climate Change Conference, 6 June 2014

06/06/2014

Speaker/writer: Sundtoft, Tine

From <https://www.regjeringen.no/en/aktuelt/Speech-Ministerial-meeting-ADP/id762286/>

9. **Speech: Ministerial meeting, Kyoto Protocol**
Bonn Climate Change Conference 5 June 2014

06/06/2014

Speaker/writer: Sundtoft, Tine

From <https://www.regjeringen.no/en/aktuelt/Speech-Ministerial-meeting-KP-2/id762288/>

10. **Kronikk: Klimapolitikk som virker**
Bergens Tidende 22.08.14

22.08.2014
Speaker/writer: Sundtoft, Tine

From <https://www.regjeringen.no/no/aktuelt/Kronikk-Klimapolitikk-som-virker/id766123/>

11. **Veien mot Paris**
Kronikk publisert i Dagens Næringsliv 30.12.2014

Tale/innlegg | Dato: 13.01.2015
Speaker/writer: Sundtoft, Tine

From <https://www.regjeringen.no/no/aktuelt/veien-mot-paris/id2359649/>

12. **Forretningsmuligheter i det grønne skiftet**
Tale holdt på Paretos Kraft- og fornybar energi-konferanse 15. januar 2015

13.01.2015

Speaker/writer: Sundtoft, Tine

From <https://www.regjeringen.no/no/aktuelt/forretningsmuligheter-i-det-gronne-skiftet/id2359653/>

13. **The agreement that the world needs at COP21**

Speaker/writer: Lunde, Lars Andreas

From <https://www.regjeringen.no/no/aktuelt/the-agreement-that-the-world-needs-at-cop21/id2395410/>

14. **Ny utslippsforpliktelse for 2030 -en felles løsning med EU**
27.02.2015

Speaker/writer: Sundtoft, Tine

From <https://www.regjeringen.no/no/aktuelt/ny-utslippsforpliktelse-for-2030/id2397859/>

15. **Norges klimapolitikk fram mot Paris**
02.03.2015

Speaker/writer: Sundtoft, Tine

From <https://www.regjeringen.no/no/aktuelt/norges-klimapolitikk-fram-mot-paris/id2398069/>

16. **Det gode klimasamfunnet**
Kronikk publisert i Fædrelandsvennen 10.03.2015
10.03.2015

Speaker/writer: Sundtoft, Tine

From <https://www.regjeringen.no/no/aktuelt/det-klimavennlige-samfunn/id2399635/>

17. **Verdens klima er i endring**
22.09.2015

Speaker/writer: Sundtoft, Tine

From <https://www.regjeringen.no/no/aktuelt/verdens-klima-er-i-endring/id2440843/>

18. **Veien til Paris**
16.10.2015

Speaker/writer: Sundtoft, Tine

From <https://www.regjeringen.no/no/aktuelt/veien-til-paris/id2458248/>

19. **En ny klimaorden**
27.10.2015

Speaker/writer: Sundtoft, Tine

From <https://www.regjeringen.no/no/aktuelt/en-ny-klimaorden/id2459204/>

20. **Dette mener Norge – vår posisjon i forhandlingene**
03.11.2015

Speaker/writer: Sundtoft, Tine

From <https://www.regjeringen.no/no/aktuelt/ungdommens-europa-konferanse/id2460071/>

21. **Grønne og lønnsomme løsninger**
05.11.2015

Speaker/writer: Sundtoft, Tine

From <https://www.regjeringen.no/no/aktuelt/boklansering/id2460317/>

22. **COP21: Every minute two soccer fields of rainforest is destroyed**
05.12.2015

Speaker/writer: Sundtoft, Tine

From <https://www.regjeringen.no/no/aktuelt/action-day/id2466076/>

23. **Fra København til Paris**
08.12.2015

Speaker/writer: Sundtoft, Tine

From <https://www.regjeringen.no/no/aktuelt/fra-kobenhavn-til-paris2/id2466232/>

24. **Tid for grønn omstilling**
06.01.2016

Speaker/writer: Helgesen, Vidar

From <https://www.regjeringen.no/no/aktuelt/tid-for-gronn-omstilling/id2469483/>

25. **Et tidsskille i norsk klimapolitikk**
22.07.2016

Speaker/writer: Helgesen, Vidar

From <https://www.regjeringen.no/no/aktuelt/et-tidsskille-i-norsk-klimapolitikk/id2508092/>

26. **Konkurransekraftig klimapolitikk**
09.08.2016

Speaker/writer: Helgesen, Vidar

From <https://www.regjeringen.no/no/aktuelt/konkurransekraftig-klimapolitikk/id2508586/>

27. **Varmere og våtere**
18.08.2016

Speaker/writer: Helgesen, Vidar

From <https://www.regjeringen.no/no/aktuelt/varmere-og-vatere/id2509276/>

28. **Norge skal kutte utslipp av klimagasser**
20.08.2016

Speaker/writer: Helgesen, Vidar

From <https://www.regjeringen.no/no/aktuelt/norge-skal-kutte-utslipp-av-klimagasser/id2509867/>

29. **Norges innlegg i Marrakech**
16.11.2016

Speaker/writer: Helgesen, Vidar

From <https://www.regjeringen.no/no/aktuelt/norges-innlegg-i-marrakech/id2520610/>

30. **Gjennombrudd for klimaet**
06.02.2017

Speaker/writer: Helgesen, Vidar

From <https://www.regjeringen.no/no/aktuelt/gjennombrudd-for-klimaet/id2537832/>

31. **Norges hovedinnlegg under klimaforhandlingene i Bonn**
18.11.2017

Speaker/writer: Helgesen, Vidar

From <https://www.regjeringen.no/no/aktuelt/norges-hovedinnlegg-under-klimaforhandlingene-i-bonn/id2579276/>

32. **Hydrogen - kan Norge bli verdensledende?**
11.05.2018

Speaker/writer: Elvestuen, Ola

From <https://www.regjeringen.no/no/aktuelt/hydrogen---kan-norge-bli-verdensledende/id2600955/>

33. **Norway's low emissions policy**
Speech/statement | Date: 12/07/2018

Speaker/writer: Elvestuen, Ola

From <https://www.regjeringen.no/en/aktuelt/norways-low-emissions-strategy/id2607245/>

34. The Norwegian National Statement: The UN Climate Conference in Katowice, 2018
Speech/statement | Date: 12/12/2018

Speaker/writer: Elvestuen, Ola

From <https://www.regjeringen.no/en/aktuelt/the-norwegian-national-statement-the-un-climate-summit-in-katowice-2018/id2622307/

35. Investing in smart and green solutions
Speech/statement | Date: 22/01/201

Speaker/writer: Elvestuen, Ol

From <https://www.regjeringen.no/en/aktuelt/smart-arctic-investing-in-smart-and-green-solutions/id2626391/>

The Ministry of Petroleum and Energy

36. The Norwegian Shelf – a good place to be
14/02/2014

Speaker/writer: Lien, Tord

From <https://www.regjeringen.no/en/aktuelt/the-norwegian-shelf--a-good-place-to-be/id751288/>

37. Åpningen av Statoils nye forskningssenter for økt utvinning
26.06.2014

Speaker/writer: Lien, Tord

From <https://www.regjeringen.no/no/aktuelt/Apningen-av-Statoils-nye-forskningssenter-for-okt-utvinning/id764626/>

38. Perspectives on the future of the Norwegian Continental Shelf
ONS: Hovedtale 26.august

26/08/2014

Speaker/writer: Lien, Tord

From <https://www.regjeringen.no/en/aktuelt/Perspectives-on-the-future-of-the-NCS/id766248/>

39. Satser bredt på CO2-håndtering
29.10.2014

Speaker/writer: Lien, Tord and Tine Sundoft (MCE)

From <https://www.regjeringen.no/no/aktuelt/Satser-bredt-pa-CO2-handtering/id2009313/>

40. Tale i anledning Høstkonferansen til Statoil og IEA
17.11.2014

Speaker/writer: Lien, Tord

From <https://www.regjeringen.no/no/aktuelt/Hostkonferansen-til-Statoil-og-IEA/id2340827/>

41. Tale til Natur og Ungdom sitt landsmøte
09.01.2015

Speaker/writer: Lien, Tord

From <https://www.regjeringen.no/no/aktuelt/tale-til-natur-og-ungdom-sitt-landsmote/id2358601/>

42. Tale i anledning Climit-summit
25.02.2015

Speaker/writer: Fostervold, Kåre (State Secretary)

From <https://www.regjeringen.no/no/aktuelt/tale-pa-climit-summit/id2397593/>

43. Internasjonal CCS-konferanse i Langesund
20.05.2015

Speaker/writer: Lien, Tord

From <https://www.regjeringen.no/no/aktuelt/internasjonal-ccs-konferanse-i-langesund/id2412522/>

44. Innlegg under åpningen av EU-kommisjonens Energy Sustainable Week i Brussel
16.06.2015

Speaker/writer: Lien, Tord

From <https://www.regjeringen.no/no/aktuelt/innlegg-under-apningen-av-eu-kommisjonens-energy-sustainable-week-i-brussel/id2424103/>

45. Morgendagens løsninger for norsk sokkel
26.10.2015

Speaker/writer: Lien, Tord

From <https://www.regjeringen.no/no/aktuelt/morgendagens-losninger-for-norsk-sokkel/id2460764/>

46. Taktskifte for klimavennlig teknologi
30.11.2015

Speaker/writer: Lien, Tord and Tine Sundtoft (MCE)

From <https://www.regjeringen.no/no/aktuelt/taktskifte-for-klimavennlig-teknologi/id2465021/>

47. A secure source of energy for Europe
Published in EurActive 30.11.2015

01/12/2015

Speaker/writer: Lien, Tord

From <https://www.regjeringen.no/en/aktuelt/a-secure-source-of-energy-for-europe/id2465185/>

48. Gas from Norway's High North Bringing Energy Security and Opportunities to Europe
26/02/2016

Speaker/writer: Lien, Tord

From <https://www.regjeringen.no/en/aktuelt/atlantic-council/id2477645/>

49. Norsk oljepolitikk
17.01.2017

Speaker/writer: Søviknes, Terje

From <https://www.regjeringen.no/no/aktuelt/oljeindustripolitisk-seminar-2017/id2527511/>

50. Enovakonferansen 2017 – Den nye økonomien
31.01.2017

Speaker/writer: Søviknes, Terje

From <https://www.regjeringen.no/no/aktuelt/enovakonferansen-2017--den-nye-okonomien/id2537107/>

51. Samspill for et teknologisk taktskifte
08.11.2017

Speaker/writer: Søviknes, Terje

From <https://www.regjeringen.no/no/aktuelt/samspill-for-et-teknologisk-taktskifte/id2578277/>

52. En sokkel full av muligheter – også i Norskehavet
07.12.2017

Speaker/writer: Søviknes, Terje

From <https://www.regjeringen.no/no/aktuelt/en-sokkel-full-av-muligheter--ogsa-i-norskehavet/id2581313/>

53. Hva skal til for at Norge skal fortsette å levere energi?
05.04.2018

Speaker/writer: Søviknes, Terje

From <https://www.regjeringen.no/no/aktuelt/hva-skal-til-for-at-norge-skal-fortsette-a-levere-energi/id2596197/>

54. Virksomheten i nord
24.04.2018

Speaker/writer: Søviknes, Terje

From <https://www.regjeringen.no/no/aktuelt/virksomheten-i-nord/id2598868/>

55. European Gas Conference
29/05/2018

Speaker/writer: Søviknes, Terje

From <https://www.regjeringen.no/en/aktuelt/european-gas-conference/id2602911/>

56. Norsk naturgass er en del av løsningen for Europa
06.06.2018

Speaker/writer: Søviknes, Terje

From <https://www.regjeringen.no/no/aktuelt/norsk-naturgass-er-en-del-av-losningen-for-europa/id2603797/>

57. Verdiskaping i en fornybar fremtid
26.09.2018

Speaker/writer: Freiberg, Kjell-Børge

From <https://www.regjeringen.no/no/aktuelt/verdiskaping-i-en-fornybar-fremtid/id2612283/>

58. Olje- og gassnæringen: Norges stolthet
13.11.2018

Speaker/writer: Freiberg, Kjell-Børge

From <https://www.regjeringen.no/no/aktuelt/los-olje--og-gasskonferanse/id2618815/>

59. Lavere klimagassutslipp fra norsk sokkel
07.01.2019

Speaker/writer: Freiberg, Kjell-Børge

From <https://www.regjeringen.no/no/aktuelt/lavere-klimagassutslipp-fra-norsk-sokkel/id2624183/>

60. Working together for a successful energy transition
05/02/2019

Speaker/writer: Freiberg, Kjell-Børge

From <https://www.regjeringen.no/en/aktuelt/working/id2628180/>

61. NVEs ungdomsseminar: Veien mot lavutslippssamfunnet
19.02.2019

Speaker/writer: Lønnum, Liv (State Secretary)

From <https://www.regjeringen.no/no/aktuelt/nves-ungdomsseminar-veien-mot-lavutslippssamfunnet/id2629760/>

62. En kraftfull fremtid
05.04.2019

Speaker/writer: Freiberg, Kjell-Børge

From <https://www.regjeringen.no/no/aktuelt/en-kraftfull-fremtid/id2640433/>

63. Sverdrup-feltet - en merkedag for Norge
03.05.2019

Speaker/writer: Freiberg, Kjell-Børge

From <https://www.regjeringen.no/no/aktuelt/sverdrup-feltet---en-merkedag-for-norge/id2643798/>

White papers

64. MPE. (2015-2016). *Mld. St. 25: Kraft til Endring. Energipolitikken mot 2030*. https://www.regjeringen.no/no/dep/oed/id750/: Regjeringen Retrieved from https://www.regjeringen.no/contentassets/31249efa2ca6425cab08130b35ebb997/no/pdfs/stm201520160025000dddpdfs.pdf.

65. MCE. (2016-2017). *St. Mld. 41:* Norway's Climate Strategy for 2030: a transformational approach within a European cooperation framework https://www.regjeringen.no/no/dokumenter/meld.-st.-41-20162017/id2557401/sec2?q=parisavtalen#KAP2-2: Regjeringen

66. Government. (2017). *Bedre vekst, lavere utslipp - Regjeringens strategi for grønn konkurransekraft*. https://www.regjeringen.no/contentassets/4a98ed15ec264d0e938863448ebf7ba8/t-1562b.pdf: Regjeringen.

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