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Evading Responsibility?

An Analysis of Norwegian Climate Policy from 2006-2016

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1.0 Introduction

Facing the adverse implications associated with climate change represents one of the greatest challenges of our time. Much research has been conducted concerning the question of what determines states' preferences for the diverse methods of reducing greenhouse gas (GHG) emissions (Røttereng 2018: 216). There is no doubt that if we are to mitigate, or even adapt to, climate change, considerable effort must be made in coming years. Over the past decades, it appears as if the general focus has been on mitigation strategies to counteract the negative effects brought about by climate change. However, in more recent years, it appears as if the international community has come more into a process of incorporating adaptation strategies than before (Hansjürgens and Antes 2008: 4). Climate change and global warming, also raises some profound ethical issues. Among these is the responsibility of the current generation to bequeath to future generations an acceptable environmental inheritance: What do we really owe to the future? Also, some researchers have asked more practical ethical questions: how should the near-term costs of mitigating climatic change be allocated among countries in a fair and efficient way? This project will, with reference to such sentiments found in the latter of these, assess the case of Norway with regard to climate mitigation strategy and the level to which ethics may have been conflated with efficiency and focus on costs.

The objective of this project will thus be to assess possible influences on Norwegian climate mitigation strategies over a chosen decade, based on two main assumptions. The first is that climate policy has been largely formatted by traditional social economic traditions, and the second, that the Norwegian petroleum sector, because of its historical presence and role in providing Norway with a widespread welfare system, has, to a certain extent, been exempted from meaningful policy measures, leading to general measures based on international involvement in mechanisms for purchasing of emission quotas. Providing the basis for Norwegian climate policy, are two settlements reached in the Norwegian Parliament, *The Storting*, namely the *Agreement on Climate Policy* (Regjeringen 2014). The first of these settlements was adopted in 2008, and providing a basis for the negotiations was the Stoltenberg government's Report to the Storting St. Meld. Nr. 34 (2006-2007) *Norwegian Climate Policy*. Likewise, the 2012 agreement was signed in association to the consideration of Meld. St. 21 (2011-2012) *Norwegian Climate Policy*.

The business of oil and gas is by far the largest industry in Norway, and over recent years the industry has been responsible for up to one quarter of the government's revenue. There is simply no other Norwegian industry comparable to that of oil and gas, neither when it comes to wealth creation, government revenues nor export value (Sæther 2017: 9). According to Sørensen (2015: 149), within the context of reducing GHG emissions, Norway is not playing a particularly progressive role. He argues, through exemplifying that, divided by each citizen Norway has higher emissions than both the EU and China. Sørensen continues by claiming that instead of focusing on national reductions within country borders, it seems as if the overarching objective has been to instead focus on partaking in international regulative frameworks for emission reduction, in which quota schemes and investments in emission reduction in developing countries are available options. Cutting emissions abroad, through such mechanisms as purchasing Carbon Offsets in the EU Emission Trading System (ETS)¹ is therefore perceived to be financially beneficial, as it lets the national emissions continue, while buying quotas off other European countries (Sørensen 2015: 150-51). Sørensen holds that one main problem with Norwegian climate mitigation strategies, is the absence of a credible and equipped strategy for adjusting Norway into a low-emission society. This argument aligns with much of the research which postulates that Norway exemplifies a paradoxical case, where the measures have not been sufficient to achieve actual reduced GHG emissions. In 2018, Norway has been an oil nation for roughly 50 years. Even though the intentions of those oil bureaucrats who designed the Norwegian petroleum institutions might have been respectable, we are now aware of the risks associated with oil and gas consumption, and the catastrophic consequences they will inevitably have on the natural environment.

Therefore, this project will tackle Norwegian climate mitigation strategies by assessing possible influential forces on such policies. On the one hand, there has been an ongoing debate regarding how and where Norway should cut emissions – often justified through traditional social economic reasoning. On the other hand, there is an intrinsic difficult dilemma regarding the petroleum sector and the pace of oil extraction. After the discovery of Norwegian oil, the industry grew rapidly in Norway, even more than initially planned. Austerity and precautionary principles lost some of its value when oil revenues became a fact. Even as the knowledge

¹ Carbon Offsets are measured in metric tons of carbon dioxide-equivalent (CO₂e) and will be further elaborated on in the section regarding the EU ETS.

regarding the dangerous implications of climate change and humanity's role in the issue became known, Norway continued to increase its extraction of oil and its GHG emissions.

1.1 Research Problem

First and foremost, it is important that the research question captures exactly what the researcher aims to investigate; it must be precise as well as establish the exact parameters of what the objective will be (Grønmo 2004: 63). The purpose of this study is primarily to examine Norwegian climate policy, with the intention of clarifying some explanatory factors that may have been part in formatting the way Norwegian authorities and politicians perceive national obligations regarding climate mitigation. It then became evident that to take basis in all documentation of climate policy would be an entirely too extensive task, and as such, there was a necessity to limit the scope of time in this regard by focusing on formulation of climate policy over the span of a decade. The research problem can therefore be articulated as such:

What are possible influences constraining Norwegian climate policies from 2006-2016, and to what extent are these influences apparent in policy formulation?

The selection of research question for this thesis takes basis in the interest found in the chosen field. Further justification for topic and research question will also be provided in coming sections. Norwegian climate mitigation policies have been subject to much scrutiny, and investigating the trajectory of such policies is nothing new. Because Norway constitutes a special case, in which the nation's economy is highly reliant on oil production, while simultaneously seeking to be a leader in attempts to establish international climate agreements, there have been much attention bestowed to this case (Ihlen 2009: 55). What this study will do is analyse stimulus that have set precedence for the way Norwegian climate mitigation strategies have been presented by the government and politicians alike. By setting a time limitation which arguably qualifies as a contemporary period with respect to politics, it is contended that such research can serve to offer some insight into some ideological and theoretical underpinnings which may have served to format the trajectory of climate policy formulation in Norway.

As mentioned, the rationale for limiting the period for this study to a certain decade, is mainly to provide a contextual framing which will not be too extensive. Additionally, two other

motivations can be offered as explanations. First, it was within this particular decade when the concerns regarding climate change seriously became an issue which took precedence on the political agenda. After several decades in which various scientists had warned against the growing perils of climate change, it came to finally be regarded as an issue so imperative that most nation states and international intergovernmental organizations began placing large amounts of focus on it. Second, and regarding the Norwegian case, it was within the past decade that the Norwegian parliament came to agreement on two settlements regarding Norway's climate policy, and since these form the epitome of the obligation which Norway is willing to assume, it may be fruitful to study these to gain better knowledge regarding the case. The choice of setting a time frame starting in 2006, is based on the inclusion of important documentation that provided the basis for the 2008 climate agreement, especially important when assessing the current state of policy.

1.2 Justification of Topic and Research Problem

The reduction of greenhouse gas emissions and mitigating climate change is a matter of urgency. The field of energy and environmental policy has gradually become one of the most important topics in International Relations, especially over the past decade. Humanity has entered a new man-made ecological era, the Anthropocene, in which we have introduced new biophysical factors into the biosphere to such a degree that it has begun to change the very physical parameters that determine the functioning of major earth system processes (Dalby 2007: 155). As finding solutions to climate mitigation is imperative to us as humans, and the necessity for this transition to follow an increasingly trajectory pace, choosing this field for my master thesis came quite natural. Additionally, I find the Norwegian case rather puzzling, as it represents quite a paradoxical case within the context of environmental advocacy. Somehow, Norway has managed to act both as a strong global advocate for responsible climate change mitigation strategies, while also operating as a major oil and gas producer, playing an unusual twin-role. Unlike most other International Energy Agency (IEA) member countries, Norway does not depend on imports for its energy supply, but rather acts as a source of energy security through its provision of reliable energy sources to a number of countries.

Among serious researchers and scientists on the topic of climate change there is a wide consensus that the increasing levels of CO₂ concentration in the atmosphere is one of the main causes for climatic changes over the past couple of decades, while it will continue to be such a

cause in the future (Betts 2009: 6-7). If the consumption of fossil fuels continues at the current levels for several decades, the calculated outcome is an increase in global temperatures at more than 3 degrees Celsius. This has often been referred to as an environmental ‘tipping point’ for irreversible climate change, and will be accompanied by serious consequences for life on Earth (Lenton 2013).

Even though Norway has been regarded as a frontrunner when climate change is up for discussion in international forums, there are also examples of such scepticism surrounding the connection between CO₂ emissions and climate change present in the Norwegian political atmosphere. For instance, Karl. I Hagen, former leader of the Norwegian right-wing party, The Progress Party (*Fremskrittspartiet*), voiced such a sentiment in a radio interview with NRK in December 2016. He argued: ‘*The climate hysteria is purely a fraud. There is no significant correlation between emissions of CO₂ and rising temperatures*’ (NRK 2016). If politicians are to be the ones who ‘know better’, it is then quite daunting when well-known, established politicians of such rank, blatantly ignore the scientific consensus, and create their own alternative, subjective truths. It is with basis in the interest for the Norwegian case, as it is one that is unique in the international context, and with basis in arguments regarding the way Norwegian climate policy has been formatted, that the topic and following research problem for this thesis was selected. The next section will provide some rationalisation for those initial assumptions made about influential factors on Norwegian climate policy.

1.3 Assumptions

As previously stated, this project takes basis in some specific assumptions concerning influential dynamics regarding Norwegian climate policies. These assumptions are founded on previously revised literature, as well as theoretical underpinnings. According to Sapinski (2016: 90), there are clear indicators that a broad coalition of actors from the corporate, political and civil society have been a mobilizing force around the project of a climate capitalist regime since the early 1990s, working towards their main policy instrument, namely carbon markets. In an attempt to reconcile environmental protection with economic growth, through mechanisms for carbon trading, climate change has been brought into a sphere where it can also function as an instrument of capital accumulation. This leads to certain levels of uncertainty regarding the success of climate mitigation, as this process has now become conflated with a project often referred to as climate capitalism (ibid.). By locating influential factors which may or may not

constrain the development of progressive climate policy in the Norwegian context, this project will thus simultaneously assess the degree to which economic traditions can function in the context of climate change. Also, corporate-funded think tanks and policy groups have at times played a crucial part in the struggle concerning which measures to implement through regulative policy. Through the provision and mobilisation of a venue for the corporate elite to debate different views regarding how to best tackle capitalism's shortcoming, such organisations create and disseminate knowledge that informs and legitimates some types of economic governance, while simultaneously delegitimising others (Sapinski 2016: 91).

Additionally, the issue of climate change, and the formation of international agreements for the mitigation of further development of such dangerous hazards, have gradually become a challenge to the world's oil companies, since the production and usage of their main product constitutes a substantial source of carbon emissions. According to Ihlen (2009), this has led many such companies to declare their support for the notion of sustainable development, and declared their business as sustainable through the inclusion of balancing economic, social and environmental responsibilities. Statoil², as the main operating and national oil company of Norway, has held that although oil is a non-renewable resource, the industry is still sustainable, as long as production is manoeuvred according to certain principles (Ihlen 2009: 58). From this, it is therefore interesting to evaluate the way in which this sector is regarded in Norwegian policy recommendation.

1.3.1 Traditional Social Economic Influence

Following the contention of some political writers (Sørensen 2015; Martiniussen 2013), Norwegian climate mitigation policies have, to a large extent, been formatted by traditional social economists in such a way that some social economic ways of thinking, theorising and modelling, have been structural – but not necessarily determining – in the formulation of climate politics (Sørensen 2015: 149). Mainly, the arguments stemming from this way of traditional thought have been articulated through the concept of 'cost-effectiveness', which has gained a broad political appeal and solid foundation in the political administration. In sections 3.1 – 3.3, I will provide a closer review of relevant economic perspectives on climate change and the concept that is 'cost-effectiveness'. The assumption concerning a social economic influence, can be articulated as follows:

² In 2018, Statoil changed its name to *Equinor*

A1: *Traditional social economic theoretical conceptions have been influential for the formatting of Norwegian climate policy, and it is assumed that this will be apparent in policy-formulation.*

To assess this claim, it will be necessary to construct some categories for sorting of data, in which arguments and recommendations for policy which align with social economic traditions are collected and provided as data material for comparison with the presented theory.

1.3.2 The Role of the Petroleum Sector

In her book, *The Best Intentions*³, Anne Karin Sæther (2017) provides extensive insight into how the discovery of oil provided the foundation for a Norwegian modern welfare society. One main argument throughout is that even though there are now a variety of renewable energy technologies available, combined with our knowledge of the imperativeness of mitigating climate change, there is little evidence that Norway and ‘the almighty oil corporation Statoil’ will assume any substantial responsibilities in the near future. Sæther (2017: 47) also points out that instead of a discussion regarding the percentage of GHG emissions which the petroleum sector is responsible for, the debate has been much more centred on how clean Norwegian oil and gas are – how emissions will remain lower as long as Norway continues its petroleum activities. In this regard, she contends that the petroleum industry has been successful in framing the debate in such a way that it has provided an advantageous context for its activities (ibid.).

This discussion has offered such phrases as ‘sustainable oil’ or ‘climate-friendly oil’. Norwegian professor in media, Øyvind Ihlen, has argued that the expression ‘sustainable oil’ is an oxymoron, meaning it is an expression containing two contrasts which contradicts one another, comparing it to phrases such as ‘deafening silence’. ‘Climate-friendly oil’ is also such an oxymoron; something which is known to be harmful to the environment is being held to be ‘friendly’ to the climate (Ihlen 2009). According to historian Yngve Nilsen (2001), the idea that Norwegian oil should replace other countries’ more pollutant oil, gained traction during the mid-1990s (Sæther 2017). The rationale behind comparing Norwegian oil production to that of more pollutant countries was mainly to validate the production of such non-renewable sources

³ Original Title: *De Beste Intensjoner. Oljelandet i Klimakampen*

by justifying the production itself with basis in arguments founded on other countries' activities in the industry.

Likewise, Moe (2015) holds that Norway is among those candidates least likely to pursue an energy transformation: 'for all practical purposes, Norway has had little incentives to invest heavily in renewable energy beyond hydropower' (Moe 2015: 186). This is attributed to how there has been little willingness for policy-makers to challenge the interests of the petroleum sector, and thus, growth in the renewable energy sector has had to come in addition to, instead of at the expense of, the petroleum sector (ibid.: 187). The assumption made regarding the petroleum sector and Norwegian climate policy here, is not that the sector itself has worked to influence politicians in their formulation of policy (which it may very well have done also). Rather, the postulation is that since Norwegian affluence has been heavily dependent on the petroleum sector, which accounts for 26 percent of annual investments and 22 percent of GDP (ibid.: 186), policy formulation on climate change has not established measures which constrain the industry extensively, and it has instead been allowed to increase its activity gradually over past decades. This assumption can thus be articulated as follows:

A2: Norwegian climate policy has been formatted in such a way that it does not constitute a threat to the continuous activity of the petroleum sector.

To investigate this assumption, it is a necessity to construct one category which revolves around the formulations in policy documents regarding the petroleum sector, and especially regarding specific measures for GHG emission reductions from the sector. Are those reports which Norwegian climate policy is founded on benign to the activity of the petroleum industry on the Norwegian continental shelf, or are there, contrary to the assumptions made here, extensive sector-specific policy aimed at constraining its activity? In combination with the empirical evidence based on official parliamentary policy recommendations, this data will be supplemented by some historical literature concerning the evolution of the oil industry and Statoil, as well as some theoretical framework which may serve as an analytical tool in this regard.

2.0 Context

There is a widely established scientific consensus on the reality of climate change. However, there are still many quantitative relations that are subject to uncertainty. Climate change, in its most simplistic form, is caused by certain gases being emitted into the atmosphere and changing the earth's energy balance by allowing incoming shortwave solar energy to enter by inhibiting exits of longwave energy (Pearson 2011: 9). Additionally, there is ample uncertainty with respect to the ultimate consequences of anthropogenic greenhouse gas emissions, and a large variety exists for estimates of this climate sensitivity. These include long-run depreciation of atmospheric CO₂, ice-melting, eco-system adaption, agricultural costs, and other impacts (Gerlagh and Michielsen 2015: 520). In this chapter, I will first offer a contextualisation of the 'climate change' term, as it is important to establish this for the scope of this study. Furthermore, the case will be described, as well as those institutional arrangements and frameworks that are central when assessing Norwegian climate policy.

2.1 Climate Change

Environmental scientists have long been able to prove the strong correlation between greenhouse gases and a vulnerability to climate change, and this issue forms the heart of the climate problem (Tol 2001: 71). Increasing concentration of certain greenhouse gases in the atmosphere are gradually altering the earth's energy balance, resulting in a rise in temperature. Among those principal GHG gases, are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O) and a collection of man-made halocarbons (Pearson 2011: 10). CO₂ emissions, accounting for approximately 60 percent of atmospheric emissions, are central to all mitigation strategies, and principal for sources of CO₂ emissions are consumption of fossil fuels (78 percent) and land use changes, mainly deforestation. The focus of this study will be on climate change, as related to rising temperatures and change in the usual weather found in certain places, and those targets set for stabilising concentrations of GHG emissions at a level that prevents anthropogenic interference in the climate system to such a degree it constitutes a threat to humans.

In forming effective political action for climate mitigation, a requirement is the establishment of a clear climate stabilisation target. The absence of such a clear climate threshold beyond which catastrophes occurs, have greatly magnified the free-rider problem among countries (Gerlagh and Michielsen 2015: 520). In 1989, the United Nations Environment Programme

(UNEP) and the World Meteorological Organization (WMO) formed the Intergovernmental Panel on Climate Change (IPCC) in order to provide a scientific basis for policy. Three years later, the UN Framework Convention on Climate Change (UNFCCC) was signed, with an objective of stabilising GHG concentrations at a level that would ‘prevent dangerous anthropogenic interference with the climate system’ (Article 2, UNFCCC).

In a historical context, the Organisation for Economic Cooperation and Development (OECD) countries have contributed 59 percent of cumulative CO₂ emissions between 1900 and 2004, while Eastern Europe, including Russia, are responsible for another 19 percent (Pearson 2011: 11). The Stern Review, published in 2007, would become a cornerstone for evaluation of perils associated with climate change. The document held that if emissions were to continue and be sustained at their current levels, then the atmospheric concentrations of GHG would double by 2050 compared to pre-industrial time. Additionally, this would eventually lead to a rise in temperature of 2-5 Celsius on average (ibid.: 12). Climate change is also expected to have a unlike impact on the rich and poor countries of the world. Poorer countries are more likely to experience climate change more severely, because they are more exposed to weather, they are closer to the biophysical and experience limits of climate change, and because they have a lower adaptive capacity (ibid.: 13).

2.2 Case Description

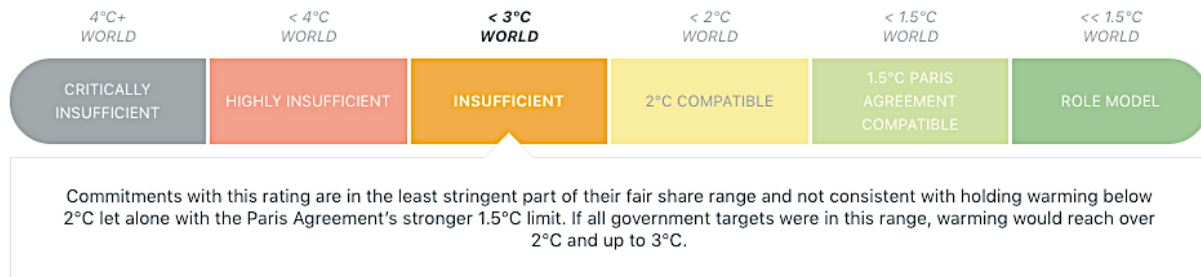
As both a major oil and gas producer and a strong global advocate of climate change mitigation, Norway continues to play a unique twin role. With its population of 5.2 million as of January 2016, Norway is, after Iceland, the least densely populated country in Europe with 14 inhabitants per square kilometre. Among the OECD countries, Norway ranks fourth in gross domestic product (GDP) capital, making it one of the richest countries in the world (IEA 2017: 15). Historically this was not the case. In 1870, Norway’s GDP per capita was only three quarters of the Western European average, making it one of the poorer countries in Europe. Characteristics such as a small population and density are not commonly associated with strong national innovative performance, which in turn is known to help GDP levels (Fagerberg et al. 2008: 4). The Norwegian economic performance is therefore directly attributed to the discovery of the offshore oil and gas fields in Norwegian waters, with production beginning in the early 1970s (ibid.: 5).

Unlike most other International Energy Agency (IEA) member countries, Norway does not depend on imports for its energy supply. By also providing reliable sources of energy, the country contributes to global energy security through its role as a major exporter of energy. Having vast resources of hydropower has led to an almost completely renewable electricity generation system, but this cheap and clean access to hydropower has simultaneously led to high consumptions of electricity in many sectors (IEA 2017: 16). Norway is often commended for the way it manages its petroleum resources and revenues, providing a model for other countries. The main challenge facing the country is the way the government will handle the need to stimulate further increases in natural gas and petroleum production, while doing so through environmentally safe operations.

Through its constitutional monarchy, Norway enjoys a full parliamentary democracy with the executive power formally vested in the king, but exercised through the government headed by the prime minister. Since 2013, a right-wing coalition, commonly referred to as ‘blue-blue’, comprised of the Conservative Party ‘Høyre’ and the far-right Progress Party has governed, also succeeding in maintaining majority after the 2017 general election (IEA 2017: 16). On 16 June 2017, the Norwegian Parliament passed a Climate Law that established a legally binding target for emission reductions in 2030 and 2050. The law aims for Norway to achieve ‘carbon neutrality’ by 2050 in quantitative terms, in this context defined as GHG emission reductions equivalent of 80-95 percent below 1990 emission levels (Regjeringen 2017).

Additionally, by 2030, the government has set a goal to reduce greenhouse gas (GHG) emissions by 40% (with basis in 1990s levels), while also providing a 2020 target of 30% reduction. Considerable attention has been devoted to environmental sustainability, and questions of how to mitigate climate change have been important in the societal discussion (IEA 2017: 10). Oil and gas activity thus makes up a key sector of the Norwegian economy, as it significantly contributes to industrial development and the advancement of the Norwegian society. The Government Pension Fund, comprised of oil and gas revenues totalling at roughly NOK 7 500 billion (around USD 900 billion) in assets, is the largest sovereign wealth fund in the world (IEA 2017: 22). In 2011, Norway is the 8th largest crude oil exporter in the world, and the 9th largest exporter of refined oil. According to the *Climate Action Tracker* (2017), which rates Nationally Determined Contributions, 2020 pledges, long-term targets and current policies according to the Paris Agreement’s 1.5°C target, Norwegian commitments are currently rated as ‘insufficient’.

Table 1: Climate Action Tracker Evaluation 2017 Norway



Source: climateactiontracker.org 2017

2.3 Mechanisms for Emission Reductions

Norway is an adamant advocate for establishing international institutional frameworks for cooperation in mitigation of climate change. In 1997, the Kyoto Protocol was signed. The Protocol set emission reduction targets averaging on about 5 percent below 1990 levels for Annex 1 countries, constituting mainly OECD and former Soviet Union nations (Pearson 2011: 15). One often criticised element for the Kyoto Protocol, was that it did not set any targets for developing countries, which was held by the US to be one of the reasons as to why the country would not ratify the protocol (ibid.). Norway, however, did commence with ratification of the Kyoto Protocol, and committed to a target of emissions in 2008-2012 not increasing by more than 1 percent above 1990 levels. Still, in the period 1990-2008 Norwegian cumulative emissions of GHG increased by 8 percent, from approximately 50 million tonnes CO₂ equivalents in 1990, to 54 million tonnes in 2008 (Klimakur2020 2010). In 2016, Norwegian CO₂ emissions were at 3 percent above 1990 levels (see Table 2). This is interesting, when taking into account the 2020 objective set by authorities in 2007, to reduce global GHG emissions equivalent of 30 percent by Norway’s emission levels in 1990.

Besides involvement in the international quota system, Norway also utilised a CO₂ tax on mineral products as well as CO₂ emissions in the petroleum industry, which was implemented in 1991 (Klimakur2020 2010: 42). Additionally, the Pollution Act and the Petroleum Law, provides frameworks for all pollution from all sedentary pollution, as well as the activity of the petroleum sector (ibid.: 41).

Table 2: Norwegian CO₂ Emissions 2016

Emissions and sinks of greenhouse gases. Million tonnes CO₂ equivalents			
	2016	Change in percent	
		Since 1990	2015-2016
Emissions from Norwegian territory	53.3	3.0	-1.1
Oil and gas extraction	14.8	79.9	-1.9
Manufacturing industries and mining	11.7	-40.4	-1.8
Energy supply	1.7	304.8	-1.6
Heating in other industries and households	1.2	-56.3	1.6
Road traffic	9.9	27.8	-3.6
Aviation, navigation, fishing, motor equip. etc.	6.5	15.5	2.8
Agriculture	4.5	-5.4	0.7
Other	2.9	8.4	2.6
Net emissions from forest and land areas in Norway¹	-24.3	-56.9	4.6

¹ Net emissions (emissions minus uptake) apply for the previous year. Source: NIBIO

Source: Model comprised of data from *Statistisk Sentralbyrå* (Statistics Norway) 'Emissions of greenhouse gases', updated 14. Dec.2017

Norwegian authorities are currently utilising a combination of economical and legal measures, in addition to information, for the release of measures that may reduce GHG emissions. Historically, incumbent governments have been particularly fond of cross-sectoral economic measures, stated as central to both Norwegian and international climate policy (Klimakur2020 2010: 38). Through the ratification of the Kyoto Protocol, Norway became part of a system which allowed for the utilisation of three flexible mechanisms aimed at Annex 1 countries with emission reduction commitments (Pearson 2011: 15). The following sections will review these three mechanisms, as they have been a central part of the Norwegian strategy for achieving emission reductions. The three mechanisms established through the Kyoto Protocol were: Joint Implementation, the Green Development Mechanism and the Emission Trading System.

2.3.1 Clean Development Mechanism

The cost of reducing emission domestically have been relatively high in Norway, and therefore, the prospects of instead being able to initiate measures in developing countries have been attractive. The Clean Development Mechanism (CDM) was introduced as a policy tool to bring developing countries into the Kyoto Protocol, as it was suggested that this mechanism could potentially both mitigate global warming and provide renewable energy systems for developing

countries (Subbarao and Lloyd 2011: 1600). The stark difference in energy consumption between the industrialised and developing countries, has played a significant role in the hampering of global efforts to cut GHG emissions. Wherein about 80 percent of the world's population reside in developing countries, these are still only responsible for consuming 30 percent of global commercial energy (ibid.).

Some studies have indicated that access to basic, affordable and clean energy services are among those main barriers facing many rural communities around the world. The underlying conundrum then becomes the fact that while equity issues suggest that developing countries need to increase energy supply, the threat of precarious climate change simultaneously urges a substantial reduction of conventional energy usage. To achieve a solution for both these issues, it would then be implied that there needs to be a transition to renewable energy sources both in the developing and the developed world. However, for various reasons, the absolute contribution of such technologies to world energy supply has been reticent (Subbarao and Lloyd 2011: 1600).

The intentions of the Clean Development Mechanism (CDM), was to allow industrialized countries to buy credits from developing countries as an instrument for the achievement of those targets set by the Kyoto Protocol. Essentially, the CDM was designed to permit more flexibility regarding the location of emission reductions, and thus decrease the overall cost of meeting emission targets, while providing sustainable development benefits in host countries (Ericksen et al. 2014: 146). However, this would still entail that the overall level of global emissions, and thus emission reductions, should be unaffected through the appliance of CDM. Even though CDM projects would lead to emission reductions in host countries, the procedure of issued Certified Emission Reduction credits (CERs) from these projects still lets the buying industrialized countries increase their own emissions by the corresponding amount, even if it does so above the target levels (ibid.). As a result, the CDM should, realistically, function as a zero-sum instrument, with no net mitigation impact.

There are especially two closely related concepts which the CDM relies on in its projection of eligibility and award credits: *additionality* and *baselines*. In this context, additionality, simply put, would mean that the policy intervention, in this case CDM, causes an activity that would not otherwise have occurred in the absence of said intervention. Thus, if a project is considered to be additional, credits can be issued for the same amount of the reduction that is achieved.

The baseline, then, would represent as accurately as possible the occurring level of emission had not the CDM project activity been implemented, which then the emission reduction would be estimated relatively to (Ericksen et al. 2014: 147).

2.3.2 Joint Implementation

Compared to the Clean Development Mechanism, the Joint Implementation (JI) part of the Kyoto Protocol flexible mechanisms has surely been the poor sister. The mechanism entails that countries with commitments can cooperate on GHG emission reduction projects, and the country paying for the project will get credited with the reductions (Newell and Matthew 2010: 79). The mechanism is defined in Article 6 of the Kyoto Protocol, and allows countries with emission reduction or limitation commitments set under the Kyoto protocol (Annex B Party) to achieve emission reduction units (ERUs) from an emission-reduction or emission removal project in other Annex B Party countries, where each equivalent to one tonne CO₂, are deductible and thus can be counted towards them meeting their Kyoto target (UNFCCC 2018).

With JI, countries aim to meet the demand for flexibility in fulfilling their commitment and attaining cheap emissions reductions through joint projects. Since it is often cheaper to pay for emission reductions in another country, large polluters could pay for their emissions to be saved elsewhere, since, in overall ecological terms, it makes no difference where GHG emissions are saved. During the Kyoto Protocol negotiations, many NGOs reacted negatively, arguing that this was simply a strategy to avoid having to commit to emission reductions at home. At the first Conference of the Parties (COP) to the UNFCCC in Berlin 1995, it was agreed to run a pilot phase. This started during the Kyoto negotiations and ran through 2002, referred to as 'Activities Implemented Jointly' (AIJ). In the pilot phase of AIJ, most of the investment went to economies-in-transition (Newell and Matthew 2010: 79). As this mechanism has not obtained the same level of functionality as the other two Kyoto mechanisms, it will not be excessively reviewed here, based on the degree to which such initiated projects have not yielded much emissions.

2.3.3 The European Union Emission Trading System

While Joint Implementation and Clean Development Mechanism projects are supposed to be about sharing costs while also spreading benefits, then theoretically speaking, emissions trading is about buying and selling pollution entitlements. This then constitutes a more purist sense of

economic logic; pursuing emissions abatement efficiently. Originally, the logic behind this mechanism favoured emissions trading because it would facilitate transfers from North to South, and thus help enable clean development in the latter. When compared to the CDM and JI, the EU Emission Trading System (ETS), is a relatively simple instrument, and works as follows: The Protocol established the basic unit of account – the Assigned Amount Unit, or AAU. Each AAU is then worth one tonne of carbon dioxide equivalent (tCO₂e) (Newell and Matthew 2010: 99).

Initially, the EU ETS worked as follows: calculated from each country's target set under the commitment to the Kyoto agreement, each country was then granted a certain number of AAUs, and then had to aim at keeping its average emissions for the 2008-2012 period within that allocated number of AAUs. Included here were also those credits which they might have gained through investments in the CDM or in JI. Additionally, if it should prove not possible to achieve emissions within those AAUs, then states could purchase AAUs from other states that have a surplus related to their targets and thus have spare AAUs to sell (ibid.). Since January 1, 2005, there has been a price paid for nearly half of the CO₂ emissions generated by countries in the EU. The region collectively accounts for about 20 percent of the world's total GNP and 19 percent of the world's energy-related CO₂ emissions.

Today, the EU ETS operates in 31 countries – all 28 EU countries in addition to Iceland, Liechtenstein and Norway, and covers roughly 45 percent of the EU's GHG emissions. The system is now currently in its third phase – which is significantly different from phases 1 and 2. Among the main changes are: a single, EU-wide cap on emission applied in place of previous systems of national caps; auctioning has become the default method for allocating allowances; it now includes more sectors and gases than in previous phases and, finally; 300 million allowances have been set aside in the New Entrants Reserve to fund deployment of innovative renewable energy technologies and carbon capture and storage through the NER 300 programme (European Commission 2016).

2.4 The Petroleum Sector

In this section I will review the historical and current institutional framework in which the petroleum sector operates. This will include some background on the period in which petroleum

was first discovered, and how those oil bureaucrats put in charge dealt with the massive task of creating a responsible institutional regulative framework for the extraction of those resources.

2.4.1 Discovering Petroleum and building an institutional framework for regulation

Hardly anyone realized the huge impact the oil industry would have on the Norwegian economy when the first production licenses were awarded in the mid-1960s. The Norwegian petroleum era started more than 50 years ago, and today it plays a significant role for the country's economy. In October 1962, Phillips Petroleum sent an application to the Norwegian authorities requesting permission for exploration activities in the North Sea (Norwegian Petroleum 2017a). The company wanted a licence for the North Sea within Norwegian territorial waters, and offered USD 160 000 per month. Norwegian authorities regarded this bid as an attempt to obtain exclusive rights, and decided that it would be irresponsible to hand over the entire continental shelf to one company. Instead, in April 1965, the first licencing round took place, awarding 22 production licences and covering 78 geographically delimited areas (ibid). In 1969, Phillips Petroleum informed Norwegian authorities that it had discovered a large offshore field, later named Ekofisk, which would turn out to be one of the largest offshore oil fields ever discovered. Following this discovery, which in many ways started off the Norwegian oil era, a series of other major discoveries were made in the coming years.

In the months following the discovery of Ekofisk, Norwegian bureaucrats were faced with the demanding task of creating new and comprehensive regulations and institutions, all of which had to be built from scratch (Sæther 2017: 15). The overarching objective was to secure Norwegian interests, and that as much control and revenues as possible would be reserved for the country itself. The years following the discovery were crucial, and are today often perceived as the 'golden era' in which industrious officials managed to construct a regulatory framework for petroleum activities which would secure Norwegian interests for many years to come, and provide the best possible balance between the oil companies' and the authorities' interests (Austvik 2007: 202-3).

While the Ministry of Foreign Affairs worked on securing the rights to the continental shelf, the newly founded Office of Oil, which was under the administration of the Ministry of Industry, was to a large extent responsible for all other matters regarding the construction of an institutional framework for the petroleum resources. This included planning, legislation, taxation systems and a system for division of fields on the shelf. One of the most prominent

bureaucrats who partook in this process, was Karl-Edwin Manshus, who later would function as Chief of Expedition for the Ministry of Oil and Energy for over a decade until his resignation in 2004 (Sæther 2017: 15).

The structure of the Norwegian oil industry has also been frequently commended internationally, and the inclusion of some environmental protection policies in this initial framework, has also been regarded as impressively foresighted (Sæther 2017: 16). Long-term profitable production of oil and gas has continuously been at the centre as an overall objective of the Norwegian petroleum policies. This achievement has been mainly carried out through taxation policies, through the Petroleum Act and the oversight of resource management by government authorities (Norwegian Petroleum 2017b). In 1972, the Norwegian Petroleum Directorate was established, which meant that the government had managed to get a three-divisional structure in place for the oil industry – comprised of a Norwegian national oil company (Statoil), the Ministry of Industry (later renamed the Ministry of Oil and Energy) and the Petroleum Directorate. In 1971, the year before the creation of Statoil, the *Storting* gathered around a declaration of principles concerning Norwegian oil policy, designed as the ten oil commandments (Austvik 2007: 202). These commandments would come to have fundamental implications for all legal framing and practical politics regarding the petroleum sector, and are formulated as follows:

1. National supervision and control must be ensured for all operations on the Norwegian Continental Shelf (NCS).
2. Petroleum discoveries must be exploited in a way which makes Norway as independent as possible of others for its supplies of crude oil.
3. New industry will be developed on the basis of petroleum.
4. The development of an oil industry must take necessary account of existing industrial activities and the protection of nature and the environment.
5. Flaring of exploitable gas on the NCS must not be accepted except during brief period of testing.
6. Petroleum from the NCS must as a general rule be landed in Norway, except in those cases where socio-political considerations dictate a different solution.
7. The state must become involved at all appropriate levels and contribute to a coordination of Norwegian interests in Norway's petroleum industry as well as the creation of an integrated oil community which sets its sights both nationally and internationally.
8. A state oil company will be established which can look after the government's commercial interests and pursue appropriate collaboration with domestic and foreign oil interests.

9. A pattern of activities must be selected north of the 62nd parallel which reflects the special socio-political conditions prevailing in that part of the country.

10. Large Norwegian petroleum discoveries could present new tasks for Norway's foreign policy. (Norwegian Petroleum Directorate 2010⁴)

In addition to the ten commandments, there was a Report to the Storting in 1974, St. Meld. Nr. 25 *The Petroleum Industry's place in the Norwegian Society*, which additionally became an essential part of the framework for the petroleum industry. This report especially deliberated on those issues which the petroleum industry could entail, as success on the shelf could also lead to negative repercussions for the mainland economy. To avoid negative effects, such as Dutch Disease, was important; a situation in which excessive increase in one form of export is driving up a country's exchange rate, and thus leads to a dramatic decline for competitive industry and subsequent increasing unemployment rates (Ramírez-Cendrero and Wirth 2016: 86-7). Greenhouse effect and climate change were not topics on the agenda in the 1974 Parliamentary Report, however, the idea of a moderate tempo for extraction of oil and gas, would become central to the climate debate 40 years later.

2.4.2 Statoil

In common with most other European states, Norway enjoyed great economic growth in the years following World War II, and in 1970, the national GDP per capita was barely below the OECD average. However, had it not been for the newly founded oil sector, the international economic crisis which started in 1973, would have probably hit Norway with massive force (Ryggvik 2015: 5). The course of Norwegian history thus changed in the autumn of 1969 when Phillips Petroleum struck oil deep in the southwestern corner of the Norwegian continental shelf, and in the first quarter of 1970, it was then confirmed that the Ekofisk field was a real giant, estimated at containing 534 million Sm³ of oil, and 158 billion Sm³ of gas⁵ (ibid.). In the aftermath of the discovery, when Labour Party politician Finn Lied, in alliance with his second-in-command Arve Johnsen, took over the Ministry of Industry in March 1971, they soon began working towards the establishment of a new state-owned oil company. Together with Jens C. Hauge, with whom they had strong affiliations, they all agreed on the need for a brand new, fully state-owned, operational oil company, as they considered the existing Hydro too difficult

⁴ Oljedirektoratet

⁵ One Sm³ of oil is equal to 6.29 barrels.

to direct. This assessment was based on the idea that changing Hydro's ownership itself would not be enough, as its industrial dynamics, loyalties and culture would still be embedded in it (Ryggvik 2015: 9).

Therefore, on July 14, 1972, the Norwegian national oil company, Statoil, was established and approved by the government. Throughout the 1980s, Statoil grew to become a fully integrated petroleum and gas company, and started constructing its own fuel brand (Tesfay 2014: 135). Some weeks after its founding, Arve Johnsen became the first director of Statoil, and Jens C. Hauge became Statoil's first chairman of the board (1972-74), followed by Finn Lied in the same position two years later (1974-84). Arve Johnsen would become known for his rather pompous language describing Statoil's strategy, and among these of the quotes, one often quoted was 'we must conquer the strategic heights' (Ryggvik 2015: 18). By this he meant that Statoil needed to become a fully integrated oil company, with activities ranging from drilling and production upstream, to refineries and gas stations downstream.

Following an international trend, there was a Norwegian transition from a social democratic government to a conservative one in 1981. The new prime minister, Kåre Willoch, regarded Statoil as too powerful, and even stated that the company had become a 'state within a state', and it was commonly known that Willoch perceived Johnsen as the personification of this illegitimate state power (Ryggvik 2015: 19). In 1985, the Willoch I government would initiate and establish the state's direct financial interest (SDFI), which meant the state would manage oil reserves about three times greater than that of Statoil (ibid.: 21). The establishment of SDFI would become Willoch's legacy in the petroleum sector, and proved to be a successful part of Norwegian policy, institutionalised as the state holding company Petoro.

When the company announced its plans of an international expansion in 1990, these plans were cleared politically without much critical assessment. However, in the late 1990s and early 2000s, there was an increase in public dispute regarding these new activities. In an effort to combat criticism, Statoil began publishing so-called sustainability reports in 2002, in line with an international trend in which large international companies would enact Social Corporate Responsibility (SCR) policies, as a measure to meet the public concern (Ryggvik 2015). Today, Statoil remains the largest player on the continental shelf, with over 20 000 employees spread across its business operations, and has established itself as an important tool for the government in securing that the main revenues from activities in the petroleum industry fall to the

Norwegian society. In 2007, Statoil and Hydro merged, first becoming StatoilHydro and later renamed Statoil again, which meant that Norway was left with one totally dominant operator responsible for 80 percent of the production of oil and gas in Norway (Ryggvik 2015: 36).

However, in more recent years, ethical controversy has been tied especially to Norwegian international petroleum activity, with special attention tied to oil extraction in environmentally fragile areas. Combined with the fact that some of Statoil's business also happens in states characterised by undemocratic notions, corruption and internal unrest has furthered this matter in the public debate.

2.4.2.1 Political Networks and the Labour Party

In January 2004, the Norwegian newspaper *Dagsavisen* published an article under the title 'Hidden Labour Party Network for the Oil Interests'⁶. Here, the paper conveyed details of how certain groups of Labour politicians would often and regularly partake in informal meetings with powerful actors from the oil industry and business. The article argued that from the beginning of the 1980s, there had been a secretive oil network, in which the participants would discuss important matters regarding policy for petroleum and energy in Norway (Ulstein et al. 2004). These accusations obviously led to a debate regarding the power symbiotic relationship between Statoil and the Norwegian government, and criticisms were raised arguing that the industry constituted a 'democratic challenge' (Sæther 2017: 201).

As previously discussed, when Statoil first was conceived, it was closely associated with prominent Labour Party politicians. At its initial stages, the oil industry and the Norwegian state authorities were closely intertwined. In the decades following World War II, the Labour Party nearly dominated Norwegian politics. Often, the party would implement its own people into top positions in administration and in state-owned corporations (Austvik 2007: 203). An example is how Minister of Industry, Finn Lied, appointed party colleague and previous state secretary, Arve Johnsen as the first director of Statoil (discussed in section 2.3.2). Close ties were then formed between the company, the administration and the government, all tied through the Labour Party.

⁶ Title is translated from Norwegian. Original title: *Skjult AP-nettverk for oljeinteressene*.

The intentions were that Statoil would be the most important tool for development of the national oil industry and that it would safeguard its main shareholder's interests, namely the government, on the Norwegian continental shelf (ibid.: 204). During this period, there were few concerns regarding democratic challenges, and this close relationship was rather seen as a mean for democratic control: the oil industry needed to be closely controlled as it was handling national collective resources. In later years, however, there have been many conflicts of varying sizes between the Labour Party and the conservative side, especially with the Conservative Party.

3.0 Theoretical Approach

As outlined in the research problem for this project, the main objective is to investigate those possible influences which may have had a reticent effect on the formulation of Norwegian climate policy and mitigation strategies for environmental degradation over the past decade. According to some authors, (Sørensen 2015; Martiniussen 2012) it is hypothesised that an explanatory factor has been the way traditional social economists have been partial in formatting climate policies, and how their inherent perspectives on political analysis in large part is shaped by more traditional conceptions of the international political reality. Additionally, there have been those authors postulating that based on Norway's vested interests in the petroleum industry, energy policy will remain heavily tilted toward prolonging extraction of petroleum, and thus, little structural change can be expected (Moe 2015: 187).

In this chapter, I will account for the choice of the theoretical framework used in this thesis, and provide motivations and rationalisation for linking the chosen theory and the empirical case material. The provided theoretical framework will hence function as an analytical tool to critically assess and comprehend the formatting of Norwegian climate policy, based on assumptions about certain influential dynamics. Contextually, it is postulated that social economists gained influence on Norwegian climate policies by serving as a force of epistemological intelligence, which then necessitates such theories which can provide explanations as to why this form of economic reasoning has persistently provided foundational principles for climate policy.

In the social sciences literature, many concept are used when describing and explaining phenomena, and the relations between phenomena. Among the most usual of these are theory, models, hypotheses, perspectives, approaches, paradigms, typologies and frameworks. According to Roness (1997: 11), his starting point is that 'theory constitutes a relatively systematic set of ideas about the relationships between different phenomena'. In social sciences designs the emphasis is placed on the fact that theories and theoretical statements are used as basis for deriving empirical statements. Theories will always remain partially finalised. A theory that is the starting point for an investigation will therefore be based on experiences from previous surveys, and what appears in the current survey may in turn lead to that theory being transformed. Theories are also characterised by the fact that they embrace more than just one particular matter or event (ibid.: 12). In addition to the fact that the contexts about the

relationships should be systematic and have a certain propagation, the theories must also include the underlying logic to get capture those interlinkages (ibid.: 13).

I will first present some economic perspectives on climate change, which can be utilised in the chapter which will provide empirical analysis related to the research problem. First, there will be a discussion of the way different social economic theories have been related to climate policy, an operationalisation of the ‘cost-effectiveness’ term, and some perspectives on market fundamentalism, which can then be perceived as a model of comparative measurement to the realities of those public documents which are presented as empirical evidence. Moving on, I will evaluate perspectives of institutionalism, which can serve as analytical frameworks for both the formatting of climate policy, and how that policy has related to the role of the petroleum sector, and thus Statoil.

It is my contention that Norway’s participation in international climate negotiations, and the resulting climate policies, as they are formulated in those documents providing basis for Norwegian climate policy, can be explained by rational choice institutionalism. The role of Statoil, and the petroleum sector at large, is assumed to possibly be explained through the perspective of historical institutionalism: the idea that choices regarding policy when institutions are formed, or policy being initiated, will have a continuous influence over policy outcomes far into the future. Arguably, the petroleum sector has been characterised by ‘path dependency’; the set of decisions available have been limited by those made in the past, even though the circumstances in which the sector operates have now severely changed as we have become aware of the perils that climate change have presented us with.

3.1 Social Economic Theory and Climate Policy

As stated in section 1.3.1, this project assumes that some traditional economic conceptions have been especially successful in influencing and lamenting the view that a cost-effective approach is imperative for the way Norway conducts its climate policy measures. To better comprehend this perception, I will now present some economic perspectives on climate change as they appear in the literature, and the way social economists justifies such an approach to mitigation strategies.

3.1.1 Internalisation strategies and Dynamic Targets

Finding and creating economic frameworks for governments to use in developing mitigation and adaptation strategies to climate change, will be an incremental part of dealing with the impacts of the already established climate degradation (Bresch 2016: 242). The unrestricted emission of greenhouse gases (GHG) causing climate change, is, from an economic perspective, a market failure in the form of an externality. Such economists have traditionally recommended the internalization of this external effect, which means that all emissions must be priced at their social cost (Lininger 2015: 53). As it is argued to be the most efficient solution to the problem of externality, this has been named the ‘first best’ solution. Ideally, then, if all GHG emissions world-wide would be priced equally and all markets were perfectly competitive, the effect of such an ‘internalization policy’ would not depend on whether it is applied to production-based or consumption-based emissions. The result would be independent of the instrument chosen to bring about such an ‘internalization’ – whether it be through an emission tax or a quantity instrument. However, if the ‘internalization policy’ cannot be implemented globally, but, for example, only in one country or a coalition of countries, it would not be possible to achieve the ‘first best’ solution (Lininger 2015: 53).

Alternatively, a different approach which seeks to establish emission targets without negatively affecting economic growth or the development process, proposes dynamic emission targets that adjust in response to GDP (Peterson 2008: 98). This approach is especially relevant in developing countries where a growing GDP is paramount. The target set for emission intensity would then be defined in terms of emissions relative to GDP, making them a special case of dynamic targets. Such targets would not establish an absolute cap on a country’s allowable emission level, but allow the level to fluctuate in response to some other measure. The most usual proposal is to let emission targets react to economic growth, measured as gross domestic product (GDP). A dynamic emission target that reacts in some way to economic growth is also denoted growth-indexed cap (ibid.).

Dynamic targets were first proposed as a possibility to establish emission targets in developing countries that have not yet agreed to emission reductions in Kyoto Protocol. It was argued that developing countries experience high, volatile or uncertain rates of economic growth so that absolute targets would be highly inappropriate while intensity targets ‘would provide the environmental benefits of reducing developing country emissions from business-as-usual levels while simultaneously accommodating developing country growth’ (Peterson 2008: 99). In

governmental attempts to cut carbon emissions, there has been an ongoing debate regarding absolute emission reduction targets or intensity reduction targets. Absolute reduction refers to the total quantity of GHG emissions being emitted, while intensity compares the amount of emissions to some unit of economic output.

3.1.2 The Cost-Effective Principle

As it is a term which have been utilised in much of policy formation over the past decades, it is essential to establish an operationalisation of what ‘cost-effectiveness’ means when related to climate policy. Here it will be necessary to also include some perspectives on the implications of this strategy, as it appears in the scholarly literature. In relation to climate change, the theoretical foundation of the cost-effective approach postulates that the estimation of adaption costs is a crucial component in identifying an effective frame for decision-making in the field of climate change mitigation strategies. If ideal, the cost of those specific adaption options should include, beside the direct cost, all those cost components of the indirect cross-sectoral impacts that would be triggered by the implementation of an adaption measure (Skourtos et al. 2015: 307-8).

3.1.2.1 The ‘cult of efficiency’

As it is based upon the endorsement of individual material gratification as the core business of human economic activity, one finds the ‘cult of efficiency’. This terminology takes basis in the quest for obtaining the largest profit for the least outlay: maximising quantities, and minimising costs. Here it is, in theory, argued that all externalities such as pollution or loss of amenity for citizens, can be dealt with through taxes, trading schemes, or compensation (Higgs 2014: 83). When defining neoclassical efficiency, this is done in ‘bottom-line’ terms; all considerations based on social, moral, or environmental criteria are only counted if they can be monetised. This would arguably not yield any exact values, as it is mostly impossible to put a price on such criteria which are founded on normative principles. Relatable to the way climate policy is here theorised to have been formatted in Norway, the neoliberal era has made sure to ascend what has been termed ‘cost-benefit analysis’ as the main instrument for assessing policy outcomes, and placing an incremental amount of emphasis on monetary values (ibid.). Higgs (2014: 85) argues that it is problematic that pursuing efficiency routinely reduces or eliminates all that is not considered immediately essential, as it solely focuses on those criteria which can satisfy the fundamental necessity for ‘cost-effectiveness’; the profitable way of doing things. Such views

are expressed throughout much economic writing on the conduct of Norway's involvement in climate mitigation: 'Critics of a cost-effective climate policy obviously do not consider that the resources of the world are limited and the resources have alternative applications' (Hoel and Strøm 2009: 501). Moving into the next section, I will provide a further discussion of how this terminology has been debated in relevant literature.

3.1.2.2 The Cost-Effective Principle in a Norwegian Climate Context

According to many authors (Strøm and Hoel 2009; Sørensen 2015; Martiniussen 2012; Røttereng 2014), Norwegian climate policy has since the early 1990s been based on an idea of global cost-effectiveness. The notion of such a principle being focal for the formatting of Norwegian climate policy is not particularly disputed. Along the way, economist and politicians have argued for a 'global cost-effectiveness', and explained this through the logic that it is less costly to cut emissions in developing countries, while measures in Norway have been held to be expensive. However, what is interesting when analysing such policy, is whether these principles have led to a constructive implementation of policy measures and actual reductions in GHG emissions. Hermansen et al. (2017) holds that instead of adopting precise targets for how Norwegian GHG emissions shall develop, shifting governments have instead utilised flexible mechanisms, as well as a variety of quota trading schemes, that make it possible to fulfil international commitments through an unpredictable mixture of domestic and foreign emission reductions. The results have been a Norwegian strategy in which prediction is difficult. In 1989, the Norwegian Parliament agreed on a resolution that Norway's GHG emissions should be stabilised at 1989 levels by 2000. In the years following, this objective would be abandoned and new targets were instead set, while emissions kept rising (Røttereng 2014).

In the debate regarding the importance of carrying out cost-effective climate policies, Michael Hoel have been one such social economist vocal on the matter. In a collaborative article with fellow social economist, Steinar Strøm, titled *Climate Policy for a Small, Open and Rich Economy*⁷, they attempt to counter arguments of Norwegian moral duties to do more than what is demanded through international agreements on reduction of GHG emissions; 'the best Norway can do is to carry out those emission reduction measures in Norway which do not cost more than those measures for reduction available abroad' (Strøm and Hoel 2009: 496).

⁷ Translated from Norwegian. Original title: *Klimapolitikk for en liten, åpen og rik økonomi*.

Essentially, this would constitute a cost-effective approach to climate politics in accordance with the definition provided above. According to the authors, if those measures implemented in Norway are not cost-effective, they will not achieve maximum reduction of greenhouse gas emissions domestically and internationally, given the costs Norway would be willing to undertake in preventing GHG emissions (ibid.: 497). This is based on the argument that there is an upper limit to the costs Norway would be willing to take on, and therefore, we will achieve higher amount of reduction if cost-effectiveness serves as a basis for those measures instigated. They then continue, by claiming that:

‘Opponents of a cost-effective climate policy are therefore supporters of Norway not achieving maximum reduction in greenhouse gas emissions. The argument that the costs should not limit the measures does not hold up’ (Hoel and Strøm 2009: 496).

Martiniussen (2012: 142) claims that there is evidence of an ‘iron triangle’ which have gained much traction when it comes to regulating Norwegian climate policy: The Department of Economics at the University of Oslo (UiO) makes up the ideological left leg, Statistics Norway (SSB) has been the scientific right leg, and the Ministry of Finance has been the political overhead. Social economists in these three branches have had strong cooperative ties, and several alumni of UiO have then moved on to work at SSB or the Ministry of Finance, while maintaining close relations (ibid.: 144).

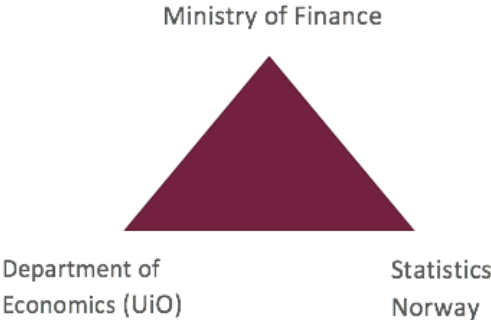


Table 3: Illustration of the ‘Iron Triangle’

The way the members of this informal network have theorised on climate policy has, according to Martiniussen, gradually became so dominant for the formatting of such policy, that it is argued it now constitutes a separate and independent ideology. For this elite, it is crucial to legitimate a high level of extraction and a continuous dependency on oil in Norway (ibid.: 145). Four main elements can be established which forms the foundation for this ideology: emission

quotas, cost-effectiveness, removal of licensing requirements and bureaucracy, and finally, technological neutrality. Most fundamental is the creation of an international, global quota market, which according to these resource economists will be incremental if there is to be any real effect of climate policy (ibid.: 146). Sørensen (2015: 156), somewhat conveys the same logic of reasoning as Martiniussen, while also emphasising that one additional weakness residing in social economists' arguments, is the implication that achieving substantial emission reduction can happen practically without consumers noticing it, which 'represent a banalisation of the challenges found in restructuring to a low-emission society' (ibid.).

3.2 Market Fundamentalism

Why have traditional social economics become so integrated into policy regarding climate mitigation? In most policy areas, Norway constitutes a strong welfare state, in which all basic services should be, and mostly are, provided to citizens, based on them being part of the Norwegian society. Taking basis in this sentiment, Sørensen (2015: 155) asks: 'Why has the social economic formatting of climate policy been so widespread an effectual?'. This relates to the issue raised and attempted answered here, which seeks to answer how it is that Norwegian politicians are so adamant that cost-effective policy is the only sufficient solution when dealing with the dangerous implications of climate change. To make this comprehensible, there needs to be a discussion of the way market fundamentalism has gained extensive influence over certain policy area, and how these arguments have gained such adherence.

In its most basic sense, market fundamentalism revolves around the strong belief in the free market as the provider of the greatest possible equity and prosperity, while it conceivably can solve most economic and social problems. Some authors have criticised this adherence, such as Boldeman (2007:1), disputing what he refers to as 'shallow all-encompassing, dogmatic economic theories advanced by economic policy elites in recent public policy debates'. Market fundamentalism has also frequently been referred to as neoliberal ideology, structural reform or some other definition implying a more neutral constitution. According to Tranøy (2006: 10), referring to it as neoliberal is entirely too polite, as such definitions would give its associations to traditional liberalism and liberal thinking more widely. Because liberalism constitutes the foundation for those ideals upon which our political systems in the wealthy and peaceful part of the world are built, the word neo-liberal should thus be used to describe people who defend our open society and the individual's integrity, or someone who realizes that even if people sell

their labour in a market, it should not entail that human beings are to be treated as merchandise (ibid.).

A main feature of this economic approach to society, is the idealisation of markets and of the individual actor, while modelling economic processes as if they were a mechanical system in which human beings are perceived to be essentially self-interested and utility maximising (Boldeman 2007: 8). This form of fundamentalism has also been compared to that of religious fundamentalists, and Tranøy (2006) therefore argues that there are five principles that constitutes a working definition for the market fundamentalist:

1. 'One who believes that there is an absolute truth that is revealed once and for all, and that there is only one literary way of understanding this truth. They believe in the untouched market; a natural economic form of cooperation. Therefore, we must cleanse the artificial state and find back to the pure, in which our salvation lies.
2. Like those reading the Bible and Quran literally, the market fundamentalists have their own texts about egotism and socially beneficial driving force; the price mechanism as a signal system and the market as a system for optimal resource utilisation.
3. Much in the same way as religious fundamentalists look down on the 'unbelievers and wishes to repent or/and defeat them, market fundamentalists also have a moralistic and missionary desire. They suggest that they themselves belong to a misunderstood and endangered minority. Market fundamentalists perceive there is a world in which there are those who fight for an effective and prosperous system, against sniders and special interests.
4. A true fundamentalist is also an anti-intellectual and opponent of science it its true meaning of the word. Science, in the sense that it is the 'search for truth' commits itself to systematic doubts and the opening for new explanations. This implies the will to live with complexity, and humility regarding our own limitations.
5. Most importantly, as with religious fundamentalists, you find an unreasonable mix of 'true believers' and cynical opportunists among market fundamentalists.' (Tranøy 2006: 10-12).

Also, Boldeman (2007) exhibit such sentiments, and holds that:

'This particular economic faith – economic fundamentalism, which is an institutionalised and extreme form of secularised Calvinism – arises under the influence of the pseudo-religious beliefs of the Enlightenment and the associated erosion of traditional religious beliefs' (Boldeman 2007: 10).

In his book, *The Market's Power over the Mind*⁸, Tranøy argues that fundamentalist thinking is overrepresented in the elite of society, especially in business and in conservative Norwegian parties such as the Conservative Party, *Høyre*, but also in the Labour Party. Also, fundamentalists in key bureaucratic positions strongly influence society. However, this does not imply that he is opposed to the market solution in all areas of society. To the contrary, we need the market:

‘The market is a central and inalienable coordination mechanism in modern society. This mechanism provides a decisive contribution to our prosperity. The market provides many goods and services, set at prices which makes it possible for many of us to afford very much’ (Tranøy 2006: 17).

According to Boldeman (2007: 11), the way such fundamental economists have been given access and are currently wielding a substantial influence over government, they now constitutes the new theocracy: ‘economics provide true believers with a new faith tradition complete with values, ideas of welfare and of progress, which dominate public discourse and which seek to reshape our institutions and organisations’. The problem is that too many, highly educated and powerful people, are not interested in a discussion about the interaction between the rule of law, bureaucracy, democracy, civil society, the family and various forms of market organisation. Instead, a simplified and idealised version of one organisational and motivational system has been presented as the measure to which all others must be compared (Tranøy 2006: 17).

What would have been better, is if there had been a continuous discussion about how to find the right balance between different institutions, one founded on the weight of considerations such as the optimal for the common versus individual rights and between morality versus efficiency considerations. Additionally, as mainstream economics involves the insidious commoditisation in which all human activity becomes reduced to the single motive of individual gain, construes a problematic image of human beings (Boldeman 2007: 7). There is a necessity for a debate on the value of inner motivation and the joy in belonging to a society and what happens to such motivation once all reward systems take basis in human beings as rational egotists who only act on consideration of what material reward can be expected (Tranøy

⁸ Translated from original title: *Markedets Makt Over Sinnene*

2006: 17). So far, the social debate on the market has been, to a large extent, about analysing conditions for efficiency.

Thus, there has been a development of a platform which, in reality, is a political program containing extensive, partly unintended social consequences. Political economies, a wide field comprised of many sub genres, has attempted to offer stringencies and mathematics. This enables them to mix power, efficiency and distribution and various complex human models in analyses that appear to a disciplined economist to be a blissful and unaware chaos (Tranøy 2006: 21).

Market fundamentalism, therefore, is here contended to promote an exaggerated admiration for efficiency, flexibility and privatisation, combined with elements of ‘managerialism’; a process implying the involvement of private-sector methodologies and language into the public sector, thus transforming the organisation and operation of it (Boldeman 2007: 16). In the context of this project, market fundamentalism provides a useful conception of an extreme form of market adherence, which is here associated with strict neoliberal conceptions. By evaluating the occurrence of market liberal terminology, such as a focus ‘cost-effectiveness’ and the importance of international market mechanisms for climate mitigation strategies, this form of political economic ideology can provide a useful tool when assessing the level to which traditional social economics have functioned to constrain the ambitions of Norway’s climate mitigation strategies.

3.3 Rational Choice Institutionalism

Rational choice institutionalism (RCI) has strong roots in disciplines of economics, while it also cuts across both political and sociological sciences. Originally, this strand of ‘new institutionalism’ arose from the study of American congressional behaviour, and the main focus is assigned to the institutional constraints on rational actions of individual actors (Torfing 2001: 280). Scholars of RCI adopt an interest-based, actor-centred approach, which perceive self-interested individuals as selecting institutions based on a set of exogenously given preferences (Fioretos et al. 2016: 6). Generally, RCI posits that those actors relevant have fixed sets of preferences or tastes, and will behave entirely instrumental to maximize the achievement of those preferences. They will also do so in a highly strategic manner presuming extensive calculations (Hall and Taylor 1996: 944-5).

Since rational choice theory relies upon the utility-maximising decisions of individuals for its analytical power, it may seem as if the possibility of relating that theory to institutions and their constraining influence, would be contradictory and inappropriate (Peters 2005: 47). However, and in contrast to the possible contradictions, there is a range of different approaches to the study of institutions which depend upon some underlying form of logic which coincides with that of rational choice approaches. All these approaches have in common that they conceptualise institutions as collections of rules and incentives that establish certain conditions for bounded rationality, and thus, also establish a ‘political space’ in which many interdependent political actors can function (ibid.: 48). From models constructing such a reality, individual politicians are expected to manoeuvre to maximize personal utilities, while their options become inherently constrained as a result of them having to operate within rules set by one or several institutions. The various rational choice approaches, both those defined specifically as institutional and those that are not, all presume the same egoistic behavioural characteristics found in rational choice approaches to other aspects of political behaviour (ibid.). When assessing those variants which are institutional, it is apparent that they focus on the importance of institutions as mechanisms for channelling and constraining individual behaviour. According to Peters:

‘The fundamental argument of the rational choice approaches is that utility maximization can and will remain the primary motivation of individuals, but those individuals may realize that their goals can be achieved most effectively through institutional action’ (Peters 2005: 48).

One issue which rational choice institutionalism confronts, is that of the commons. This refers to those situations in which rational individual action can produce collective irrationality, and it thus offers as the common solution to create institutions providing regulative frameworks and rules. An example of such individual rationality with a less than ideal collective outcome, would be if the rational attempts of fishermen to maximise their own income would result in depletion of fish stock. Forming institutional arrangements could then produce solutions which would be viable in the longer run (Peters 2005: 51). This can also be linked to the aspect of climate change and those problems concerning states’ interests in maximising their revenue from non-renewable sources of energy, such as oil and gas. Through the organisation of international institutions which can regulate the emissions of dangerous GHG emissions, there is the possibility of establishing rules which can yield better results in the long run. Usually, however,

such institutions would be conceptualised as depending on authority, but they may also work through the development of mechanisms for voluntary cooperation (ibid.).

The rational choice perspective on institutions presumes that institutions are formed on *tabula rasa*; the outcomes of the design process will be determined by the nature of those incentives and constraints present, which are built into the institution. This further assumes that the history of the past concerning the institution or organisation is of little concern, and new incentives can generate altered behaviour rather swiftly (ibid.).

3.3.1 Game-theory and Institutions

One of the main concerns of the rational choice version of institutional theory, is *compliance*. An issue with compliance is that it can also be conceptualised as games played between actors attempting to ensure the compliance of other actors, while those bureaucratic actors commonly seek more leeway concerning their actions. For the actors who ‘design the game’, it is thus important to construct a payoff matrix which provides enough incentive for those actors to comply. In this version, the bureaucrats are not assumed to be evil, but rather only self-interested, as they naturally desire greater latitude for themselves to pursue those versions of public interests they find paramount (Peters 2005: 51).

Likewise, legislators are not assumed to be chasing inappropriate goals either, as they are merely attempting to ensure that their own version of valuable public policy coincides with what is implemented in the present and the future. The literature on game-theory emphasises the importance of repeated games as a means of establishing a greater level of cooperation and mutual compliance among the game participants (ibid.). Game theory oriented conceptions of institutional theory shares much with the principal-agent model, but is differentiated by how the process of compliance is conceptualised.

3.3.2 Environmental Challenges in a Game Perspective

Different sets of game-theoretic settings are often applied when attempting to understand international negotiations on climate change in the scientific literature (Pittel and Rübhelke 2012: 23). From the perspective of standard economic theory, it is somewhat difficult to explain international agreements that potentially imply large economic adjustment costs to industrialised nations, since climate change constitutes a case of voluntarism. According to

standard game theory, there should not be any countries with incentive to abate greenhouse gas emissions above its non-cooperative level (Böhringer and Vogt 2003: 476). Additionally, each country would have an incentive to free-ride on abatement in other countries without contributing by its own, leading to a situation described as the well-known prisoner’s dilemma (ibid.: 477). The prisoners’ dilemma is a paradoxical perception of decision analysis in which two individuals both act in their own self-interest and pursue a course of action that does not result in an ideal outcome for either participants. The model has been used by resource economists and some social scientists to almost mathematically decide which positions would be most sensible to take in a bargaining situation (Martiniussen 2013: 149).

The model works as follows: two prisoners, A and B, are both arrested for a serious crime and put in solitary confinement with no way of communicating with one another. As the prosecutors lack sufficient evidence to convict either of them, they hope to get both prisoners sentenced to a year on a lesser charge. Simultaneously, the prosecutors offer the prisoners a bargain: If they both betray each other and testifies against the other, they both get two years; if A betrays B, while B is silent, A will be set free and B will serve 3 years (and vice versa); finally, if A and B both remain silent, they will only serve one year each. Based on realist conceptions of human nature, it is expected that both prisoners will betray the other, as they will both act in their self-interest of going free

Table 4: Model Illustration of the Prisoners’ Dilemma

	Prisoner B stays silent (cooperates)	Prisoner B betrays (defects)
Prisoner A stays silent (cooperates)	Each serve 1 year	Prisoner A: 3 years Prisoner B: goes free
Prisoner A betrays (defects)	Prisoner A: goes free Prisoner B: 3 years	Each serve 2 years

When applying this form of game theory onto the issue of climate change, the dominant strategy of countries would then be to avoid providing public goods in the shape of climate protection (Pittel and Rübhelke 2012: 24). According to Martiniussen (2013: 151) arguments stemming from this model has been used actively to legitimate Norway’s exceeding GHG emissions,

based on the logic that it would be dangerous for Norway to lead the way on cutting emissions, as it would only lead to the inaction of other countries. There are prevailing incentives for free-riding in international climate protection, due to the public good properties. Such free-rider incentives then cause sub-optimally low worldwide provisions of climate protection, because there is not any global coercive authority capable of enforcing international regulations (Pittel and Rübhelke 2012: 26).

Individually, the best outcome for any country would be for them to continue to pollute while other nations reduce emissions. This would give the polluting country a competitive advantage compared to other nations who would then limit their use of fossil fuels – constituting a free-rider problem. However, the *Pareto Optimum* outcome would be for all parties to cooperate as this is the solution that reduces the total amount of emissions divided by those carrying the burden of it. The worst collective outcome would be for all parties to defect causing everyone to suffer the worst-case penalty.

3.3.3 Evaluation of Rational Choice Institutionalism as an Analytical Perspective

RCI has deep roots in economic disciplines, which arguably could imply that it is a suitable perspective when assessing the implications of economic traditions on policy outcomes, as well as policy-formation with respect to petroleum business. As it emphasises those institutional constraints which are put on rational actors in policy-making, it leads to a discussion of how actors in international negotiations utilise institutions to maximise their needs and wants. If states are considered actors here, instead of individuals, this could then provide a contextual setting in which states participate in international negotiations in order to find solutions that are the least damaging to their inherent objectives. If all states, including Norway, will act in accordance with utility-maximising decisions, then that could function as an explanatory factor as to why Norway has seemed most focused on establishing international quota schemes, which lets national emission continue at current levels. Game-theory perspectives also rationalises why the most optimal solutions are not always achieved in international negotiations, because states will secure their own interests first. Additionally, when evaluating the data, it would then be interesting to assess to what degree Norwegian policy is conditioned by the efforts of other countries, instead of providing coherent strategies for the national climate policy first and foremost.

3.4 Historical Institutionalism

Historical institutionalism (HI) is one of the three main approaches to institutions in political science, often termed the ‘new institutionalisms’. In its most basic sense, and deceptively simple, the idea is that those choices made regarding policy when an institution is being formed, or when policy is initiated, will have a continuous and determining influence over the policy far into the future (Peters 2005: 71). Most frequently, this is termed as ‘path dependency’ and refers to the idea that when a government programme or organisations embarks upon a path there is an inertial tendency for those initial policy choices to persist. If that path is to be altered, which it may according to this approach, it will require a good deal of political pressure to produce such changes. Central to any form of institutional analysis is the question of how institutions affect the behaviour of individuals, since it is through those actions that institutions can influence political outcomes (Hall and Taylor 1996: 939). The approach was developed as a response to the group theories of politics and structural-functionalism, which were central in political science during the 1960s and 1970s (ibid.: 937). From such group theories, the historical institutionalists accepted the argument that conflict among rival groups for scarce resources lies at the heart of politics, but pursued better explanations for the distinctiveness of national political outcomes and for the inequalities that mark these outcomes (ibid.).

The central assumptions of HI are often perceived of as two-fold; first, that it is more informing to study human political interactions in the context of those role structures that are themselves human creations; and second, that human political interactions must be studied as life is lived, rather than through snapshots of those interactions at one single point in time (Sanders 2008: 39). How these behaviour-shaping rules develop over time is conventionally understood as the way they are marked by path dependency. Whenever a crisis occurs in the political landscape, or a certain level of social pressure, new ways of doing things are produced (Sanders 2008.: 40).

In the literature on historical institutionalism, many arguments are built on a dual model of institutional development characterised by relatively long periods of path-dependency and reproduction, only punctuated by sporadically brief phases of institutional fluctuation. These brief instances are referred to as critical junctures, and it is within such phases that dramatic change is held to be possible, and that will continue to have a lasting impact on choices made during those critical junctures in history (Capoccia and Kelemen 2007: 341). Those junctures are therefore ‘critical’ because they steer institutional arrangements on to certain paths or

trajectories, leading to the crucial causal mechanism of path dependency for historical institutionalists (ibid.). According to Collier and Collier (1991), critical junctures can be defined as ‘periods of significant change which typically occurs in distinct ways in different countries’. Their work is held today to have constituted a landmark for the focus of scholars on critical junctures.

However, this simple and straightforward exposition of historical institutionalism does not convey all those aspects which complicate the approach. Many of those analytical questions raised concerning the various forms of institutionalism become even more extreme in this particular version, and it is also challenging to separate this version of institutionalism from the others (Peters 2005: 71). For instance, some rational choice institutionalists have attempted to argue that there are pervasive effects of early choices about property rights and other rules of economic interaction that will effectively shape institutions. Additionally, as political scientists, sociologists and economists studied institutions for decades before the emergence of the new institutionalisms, there were many critical questions raised as to why these new approaches would add anything to the analysis of institutions. Thelen and Steinmo (1992), who have been central in making a coherent statement of the HI approach, seem to have been mainly motivated by the focus on behaviouralism in the 1950s and 1960s, and the (in their eyes) excessive focus on individual behaviour and individualized motivations for action in politics (Peters 2005: 74). Their critique holds that:

‘Because mainstream behavioralist theories focused on the characteristics, attitudes, and behaviours of the individuals and groups themselves to explain political outcomes, they often missed crucial elements of the playing field and thus did not provide answers to the prior questions of why these political behaviors, attitudes, and the distribution of resources among contending groups themselves differed from one country to another’ (Thelen and Steinmo 1992: 5).

Power differences between groups are also a central concern in HI, and the focus of scholars is frequently placed on the role institutions play in giving some groups more power than others (Hadler 2015: 187). Power differentiating among political actors, or civilians, can lead to disproportionate access to decision-making processes, which is a sign that the institutional structure reinforces a certain impact on the political ideas through the delegation of political power. Furthermore, Hall and Taylor (1996) argue that historical institutionalism stands in a

pivotal position in regard to the other institutionalisms, as it could act as a broker for theoretical rapprochement, as several of its arguments can be translated into rational choice terms, while others display clear openings toward social constructivist institutionalism (Torfing 2001: 285).

3.4.1 Defining Institutions in an Historical Institutional Perspective

Additionally, it is important to any institutionalist approach and the following analysis to define what constitutes an institution in each of the approaches. How to conceptualize and where to draw the line on what counts as an institution has for long been a matter of some controversy in the literature. According to Thelen and Steinmo (1992: 2), historical institutionalism ‘work with a definition of institutions that includes both formal organizations and informal rules and procedures that structure conduct’. Following this, they define institutions through exemplification, ranging from formal governmental structures (legislatures) through legal institutions (electoral laws) and to the more amorphous social institutions (social class), which they all see as structural components of the institutional apparatus that they will use to explain political phenomena (ibid.: 2-4). Interestingly, there are other scholars who provide definitions somewhat closer to a stipulated definition of the term, and rather than focusing on formalised structures, they argue for an understanding of institutions as rules and procedures, which is more in line with some scholars’ versions of rational choice institutionalism (Peters 2005: 74). However, even such definitions tend to define institutions by example rather than by their fundamental, denotative characteristics (ibid.: 75).

According to Hall and Taylor (1996: 938), historical institutionalists tend to define institutions ‘as the formal or informal procedures, routines, norms and conventions embedded in the organizational structure of the polity or political economy’. This implies that institutions range from the rules of a constitutional order, to the standard operating procedures of a bureaucracy or the conventions governing trade union behaviour. In sum, this approach associate institutions with organizations and the rules or conventions promulgated by formal organization.

There is also an element of the operational definition of institutions that stand out in most historical literature; the role of ideas in defining institutions. Quite regularly, in much of the literature using an HI approach, the concept of the influence of ideas comes through strongly although formal structures are discussed to some extent, as well as the procedures within those structures (Peters 2005: 75). In his discussion of the literature on HI, Peters (2005: 75) finds several examples of where some scholars have turned from more structural explanations to

rather examine the influence of ideas on policy. Among these is Peter Hall's (1989; 1992) work where he is concerned with the impact of Keynesianism and monetarism on policy. Peters argue that these ideas are functional equivalents of the logic of appropriateness in normative institutionalism; they constrain the limits of the acceptable action of government. However, when solving the problems raised by HI, the argument that ideas are central components in the definition of institutions will only go so far. This is for two reasons mainly; one the one hand, HI focuses on consistent concepts of formal institutions, and on the other hand, however, they tend to rely on relatively amorphous concepts such as ideas to define the institutions (Peters 2005: 75).

3.4.2 Evaluation of Historical Institutionalism as an Analytical Perspective

According to Peters et al. (2017: 612) it may appear easier to explain under-reaction of governments to policy stimuli from an institutional perspective, than it is to explain over-reaction. When assessing policy responses to climate change, it is also important to note that the impacts of climate change are many and diverse, requiring a wide range of policy responses. Climate change will eventually necessitate an energy transformation to renewable sources of energy, and it should then be expected that governments would be gearing policy towards the engagement of renewable energy promotion. However, regarding the Norwegian case, it is evident that the main focus has not been on promoting new sources of energy; quite contrary, CO₂ emissions from oil and gas extraction in 2016 had increased by 79,9 percent from 1990 levels (SSB 2017). A historical institutionalist perspective can then arguably provide an important analytical tool when assessing how the institutional framework have led to some actors or groups being in a greater position of power and influence, thus providing those criteria which has formatted Norwegian climate policy. As previously stated, the extent to which there exists a power differentiation among political actors, or in this case a group of intellectuals, this can lead to such actors having a disproportionate access to the decision-making process – a clear indicator that the institutional structure continuously reinforces the influential impact of certain political ideas through delegation of power (Hadler 2015: 187).

4.0 Methodological Framework

This chapter will provide an overview of the methodological approaches utilised in this study. Methods provide insight into how best to acquire knowledge and develop theories for further assessment. Additionally, it focuses on how the scientific quality and significance of the study are fulfilled through knowledge and theories (Grønmo 2004: 27). The purpose of this chapter is therefore to account for the research design and choice of methods; those procedures applied in the assessment of Norwegian climate mitigation policy over the past decade, based on narratives found in the chosen empirical data which takes basis in the Norwegian Agreements on Climate Policy adopted in 2008 and 2012. Also, it will serve to illustrate that there is an adequate consistency between the research problem and the selected method.

For this project, the formulation of the research question and the related assumptions have assisted in limiting the scope of the study and set the direction for it. The limitation of scope and focus has therefore provided guidelines for choice of data, as opposed to the inverse. In the configuration of the study it was also necessary to evaluate whether it would assume a qualitative or a quantitative approach. Qualitative and quantitative data are both collected and reviewed by the utilisation of different methods, such as observation, content analysis, interviews, etcetera (Grønmo 2004: 123). For this project, the approach has been qualitative in nature, as this provides the prospect for in-depth information and study of the chosen object being researched.

4.1 Qualitative Case Study

Social scientists have, much like historians, adopted an approach in line with the naturalist persuasion when they generate case studies. The underlying implication here is that they are ‘cases of something’; they are being studied because they are interesting, relevant or because they are part of a grander theoretical concern or specific research project (Moses and Knutsen 2012: 133). According to Gerring (2007: 19), ‘*Case* connotes a spatially delimited phenomenon (a unit) observed at a single point in time or over some period of time’. The archetypical case that have been dominant in use by student of political science, has historically been the nation-state. However, the study of smaller social and political units has been equivalently standard in many of the social sciences disciplines. Independent of choice of unit, the methodological challenges attached to the case study have nothing to do with the size of the case (ibid.). Because case studies often have been based on techniques of historian scholarship, they have habitually

employed history itself as a database for construction and testing of theories (Moses and Knutsen 2012: 133). While there has, for this very reason, been a general mistrust in the naturalist tradition concerning case study, there has simultaneously been a growing appreciation for the knowledge which this approach can generate. Most notably, case studies have proved particularly valuable when combined with other approaches of statistical and comparative nature (ibid.).

It is rather difficult to provide one singular definition as to what exactly constitutes a case, or the idea of case analysis, despite its wide application and how central this approach has been in social science research. However, a standard point of reference among many social scientists has been to take basis in Yin, a definition which describes case study as:

‘an empirical inquiry that; a) investigates a contemporary phenomenon within its real-life context, when b) the boundaries between phenomenon and context are not clearly evident, and in which c) multiple sources of evidence are used’ (Yin 1989: 23).

According to Yin (2014: 29), there are five crucial components which are necessary to consider for the research design of a case study: the study’s questions; its propositions; its unit(s) of analysis; the logic linking data to propositions and, finally; the criteria for interpreting the findings. By covering these preceding components, the research design will then effectively force the research to construct some preliminary or theoretical propositions that are related to the topic of study (ibid.: 37).

The definition as it is provided by Yin (1989), will serve to constitute the basis for the approach of this study. The objective is to make one case the subject for further investigation, namely that of Norway in a climate policy context. By examining this case, as it has already been established introductory wise that it constitutes a unique case when assessing national climate policy and mitigation, it is contended that this may provide a justifiable approach for close examination and understanding of some assumed explanatory factors. Thus, as case study revolves around providing in-depth understanding of the chosen case, it makes this approach preferable to the context of the objective presented in this thesis, as it is stated in the research problem. Additionally, Yin offers five analytic techniques which can be utilised in assessment of data in case study: pattern matching, explanation building, time-series analysis, logic models and cross-case synthesis (Yin 2014: 142-165). This project takes basis in the first of these

analytic techniques, pattern matching. In case study analysis, pattern matching logic has become one of the most desirable techniques, as it compares an empirically based pattern – the findings of the case study empirical evidence – with those predictions made before collection of data, which here are those theoretically and literature based assumptions which have been established. The results can help a case study to strengthen its internal validity, if the empirical and predicted patterns appear to be similar (ibid: 143).

4.2 Qualitative Content Analysis

When analysing qualitative data, qualitative content analysis is a method which focuses on subject and context while emphasising variation and similarities within different parts of the text material (Granheim et al. 2017: 29). This method will generally involve a review of documents with the aim of categorising the content and register the data that is relevant to the research problem in the study. In principle, qualitative content analysis may be applied to all documents, whether it be in the form of text, numbers, sound or pictures (Grønmo 2004: 188). This method for data evaluation allows for a great amount of flexibility, and most commonly, the collection of data will, to some extent, transpire parallel with data analysis. Additionally, selection of text material also happens while proceeding with collection of data (ibid.). Generally, qualitative content analysis will involve some form of systematisation of the selected texts, images or content elements, with the aim of highlighting specific issues or phenomenon. A central objective may be to provide substantial insight into the essential arguments, positions, attitudes or values central to the chosen text material (ibid.: 128).

There are several advantages when choosing the method of qualitative content analysis; it is a method for systematically describing meaning found in qualitative data through assigning successive parts of the material to categories in a coding frame. Constructing such a frame, is at the centre of the method, and contains all aspects that feature in the description and interpretation of the chosen material (Schreier 2014: 170). There are especially three features of qualitative content analysis which it is worth to note here. First, it assists in reducing the amount of material by requiring the researcher to focus on selected aspects of meaning; aspects which are relatable to the overall research question. Second, it is a variation of a qualitative approach which offers a systematic process. The method entails examination of all parts of the material which is relevant to the research question, and thus counteracts the perils of looking at the material only through the lens of one's assumptions and expectations. The third and final

feature, is that qualitative content analysis is a flexible method, especially when compared to its quantitative counterpart (ibid.: 171).

4.2.1 Analysing Documents

The utilisation of documents as the source material for a research project, may allow filtering and interpretation of information from these texts; when assessing official governmental reports, it may allow for understandings of underlying ideological or theoretical foundations, based on mapping of those lines of arguments and rhetorical features observable in the text (Bratberg 2014: 9-10). When analysing documents, a useful starting position is to assume that documents are socially defined, produced and consumed. When reviewing documents analytically, it is then necessary to examine the processes of production and consumption, whether they are technical, linguistic or conceptual, in addition to the content within the documents (Coffey 2014: 370).

Documents also regularly provide a documentary construction of the social reality, and depends upon particular usage of language and form (ibid.). Important when working with documents, is that the researcher should be aware of the ways in which documents are classified and conceptualised. What is operationalised as a document, and those meanings attached to the document, is a complex and multifaceted task (ibid.: 377). Additionally, according to Coffey (2014: 375), ‘documents are usually “recipient designed”. That is, they are produced with readers in mind and will therefore reflect implicit assumptions about who will be the reader’.

The provided empirical data for this thesis, consists of four governmental reports, and must thus be considered accordingly: authorship and readership must then be central when assessing these documents and the relations between them. By looking beyond individual text formation, and linguistic artefacts, one may then ask questions of how such documents are related. Documentary sources do not, however, always transparently describe or reveal what is going on or states of affairs. Instead, they are constructed to assist in understanding them, and that construction will necessarily require active participation from the reader, based on presupposed assumptions and understandings tied to the theoretical implications (Coffey 2014: 373).

4.2.2 Theorising from Qualitative Data Analysis

The synergies of theory and data in qualitative research constitutes a complex and contested reality, which arises when researchers attempt to apply theoretical knowledge into their data or try to transform qualitative findings into theoretical statements (Kelle 2014: 554). In this research project, a deductive approach has been utilised for the attainment of the stated objective. When such an approach is utilised, this infers that one draws a link from a general theoretical assumption to an empirical hypothesis: ‘If A (a theoretical statement) is true then we would expect the empirical phenomenon C to happen’ (Kelle 2014: 560). In this way, the expectation that C may occur, represents an ‘empirical hypothesis, as contrasted by the ‘theoretical hypothesis’ A (ibid.).

This implies that the approach has been concept-driven, by testing implications of existing theories or explanatory models regarding a phenomenon against the collected data (Granheim et al. 2017: 30). Provided by the objective of this project, the theoretical underpinnings provided the basis for empirical evidence, and the aim was thus established. In qualitative content analysis, the results are normally presented as categories, which may include things, opinions, attitudes, perceptions and experiences; it is the ‘what’ comprising and describing a collection of similar data sorted into the same place (ibid.: 32). In the following section I will present the categories utilised here, and provide some theoretical explanatory foundations for these, as well as definitions.

It is also necessary to evaluate the way in which the theories will be evaluated in relation to the data. Based on Roness (1997), the chosen approach for this study will be to see those theoretical perspectives presented as complementary to one another, constituting a multi-paradigm approach. The aim of using this strategy is first and foremost to understand and explain the most of what is happening, instead of choosing between the applied theories. This allows for successful assessment to be based on how much insight one can derive through the usage of theories collectively. It is no problem then, that the chosen theories might be contradictory to one another (Roness 1997: 100). Additionally, the most important criterion when utilising this strategy, is that the theories must be valid. The individual theories will then capture different observations, and together they may provide a clearer understanding than what they might do individually and separately.

4.2.3 Categorisation

When utilising the method of qualitative content analysis, the researcher will usually, during the collection of data, initiate a process of categorisation of the relevant substance of the texts. It is in relation to this process that the relevant alternations between data collection and analysis will become most apparent. For each category, the researcher must be especially considerate of those elements of text that are typical, and which can provide clarification of the central substance in the category, as well as those elements of text that do not fit it, and can thus assist in limiting the scope of the category (Grønmo 2004: 191). Defining the categories is a mandatory part of the category description. When one begins this task, it is common to go beyond the specifics of any particular passage. Instead, the meaning of the relevant passage will be connoted to a higher level of abstraction, which will result in categories that apply to several concrete, but slightly different passages (Schreier 2014: 171). For this project, the empirical data will be divided in three main categories, which have been developed with basis in the research question and the underlying assumptions derived from the research question. The categories have intentionally been defined in a wide scope, as to capture all text which can provide insight into the issue. According to Schreier (2014: 176), a common mistake when defining categories is to make the definitions ‘too narrow by limiting them to instances of the category in the material that is used for building the coding frame’. The main categories in this research are: first, all references to measures and recommendations that are based on cost-effectiveness as an argument; recommendations and description of policy regarding the petroleum sector, and; finally, evaluation of international commitments.

The first category, cost-effectiveness, will include all measures which are deemed necessary or recommended based on the claim that they are cost-effective. Here, perspectives on economic theory and rational choice perspectives on institutionalism are a relevant explanatory factor, as it assumes that political actors will utilise institutions to maximise their needs and wants, and the outcomes of policy will be determined by the nature of those incentives and present constraints (Peters 2005: 51). Cost-effectiveness is thus a manifestation of traditional social economics here, and to the degree that the usage of this phrase is deemed an argument for measures in the text, this would then serve to substantiate the research problem. The second category, which includes references to the petroleum industry, is then defined as considerations regarding this sector, as it is assumed that there may not be a substantial amount of measures which are aimed at strictly regulating this sector. While taking basis in the historical institutionalist perspective, it is assumed that the institutional framework which historically has

persisted, can manifest as an under-reaction (Peters 2017: 612). This is based on the theoretical assumption that the institutional structure continuously reinforces the influential impact of certain political structures (Hadler 2015: 187). The third category, is founded on the notion that traditional social economic theory would emphasise the importance of international mechanisms for GHG emission reduction. Also, these mechanisms tie to the petroleum sector, to the extent that by partaking in quota schemes and taxes on emissions, these would make it less essential to strongly regulate that industry.

4.3 Data Collection and Assessment

When choosing documents for this thesis, there were several aspects which were important to consider: to what extent are the documents appropriate in consideration of the research question? Is the source dependable? Are the documents available for assessment? Choice of empirical data should also take basis in the formulation of the research problem, and then be deducted from the terminology which is explicitly apparent (Grønmo 2004: 111). Since the objective here is to investigate policy formulation and the occurrence of certain theoretical explanatory factors, it was necessary to choose some fundamental policy formulation that has served to shape the outcome of Norwegian climate policy.

Following this, the main empirical evidence in this study is comprised of four reports on climate policy, two of which were commissioned reports by Norwegian Ministries. By Royal Decree of March 11th, 2005, a committee was appointed to investigate the necessary measures if Norway was to be able to reduce greenhouse gas (GHG) emissions by 50-80 percent by 2050. The Committee was then named the Low-Emission Committee (*Lavutslippsutvalget*), and on October 4th, 2006, it presented Minister of Environment, Helen Bjørnøy, with its report *A Climate Friendly Norway* (NOU 2006: 18). Two years later, the Ministry of Finance elected a new committee, which resulted in NOU 2009: 16 *Global Environmental Challenges – Norwegian Policy*. This committee was chaired by the then Director of Statistics Norway, Øystein Olsen, and the majority of the members on this task force were economists, including the previously mentioned Michael Hoel (Sørensen 2015: 154). The committee would then become known as the Olsen-Committee. These documents were chosen because it is my contention that as they were commissioned by two different ministries, Environment and Finance, there is reason to assume that the latter could have a more socioeconomic focus than that which the Ministry of Environment presented.

In addition to these committee reports, two reports to the parliament were chosen as well. These are: St. Meld. 34 (2006-2007) *Report to the Storting: Norwegian Climate Policy*, and finally, Meld. St. 21 (2011-2012) *Report to the Storting: Norwegian Climate Policy*. The rationale here is that these reports both served as recommendations which the two climate agreements of 2008 and 2012 were founded on, and are thus imperative when assessing policy formulation for climate policy in Norway. For the first settlement on climate policy, the NOU 2006:18, served as a recommendation for policy formulation, however, it has been argued by some authors that those recommendations were not well-received by the Ministry of Finance – which is why a new committee was established, that would take more basis in the two principles of cost-effectiveness and management efficiency (Sørensen 2015: 153).

At first, the data material consisted of more sources of material, but as these four documents can be argued to provide the foundational underpinning of Norwegian climate policy, as it is what the two settlements in the Norwegian Parliament are based on, it was contended that in combination with secondary sources providing theoretical perspectives, it would be sufficient to consider those four chosen documents for this project.

Since this thesis takes basis in reviewing documents as they are presented by Norwegian authorities and Ministries, all documents were easily accessible being that they are all public reports following principles that governmental policy is obligated to provide information publicly. This made the process of gathering the empirical evidence a task not too comprehensive. Instead, the task of choosing documents become more prominent, which took basis in a consideration of the relevance of each document. As these documents are quite substantial, and covers a wide array of issues related to climate change, environmental policy and a wide array of industries, some limitations of scope have been initiated. Mainly, this limitation is provided by the previously established categorisations, which allows for careful selection of those passages which can provide clarity in relation to the research problem.

4.4 Research Quality in Qualitative Research

The quality of data in social sciences cannot be considered in a general manner, but rather must be seen as related to those conditions in which it appear. It is common to therefore assess quality in terms of how suitable the data is for measuring and answering the proposed research question

(Grønmo 2004:217). In recent times, there are especially two prevalent paradigms among social researchers, namely positivism and post-positivism. According to a positivist view, science or knowledge creation should be restricted to what can be observed and measured (Bhattacharjee 2012: 18). This entails the view that through methods one can be assured of validity, as knowledge can ultimately be reduced to a logical system that is securely grounded in irrefutable sense data (Maxwell 2005: 105). This position was ultimately abandoned by social researchers, and it is more common to now regard validity as a goal rather than a product (ibid.). The degree to which the data suits the research question then, will be essential in achieving the goal of validity, and there are, additionally, several factors and prerequisites which determines this suitability (Grønmo 2004: 217). These principles can be summarized as; commitment to truth; foundation in scientific principles for logic and parlance; proper selection of cases and units and, finally; the execution of the data collection must be done in an appropriate manner (ibid.: 218). If these principles are followed, the quality of the data will then be the overall expression of how well these prerequisites are entertained.

Having collected the data for a project, it is also necessary to conduct an evaluation of whether there have occurred coincidental or systematic errors during collection of data. This is done by controlling the reliability and validity of the study, which are the research criteria most commonly utilised in social sciences research. It is important that the data are both valid and reliable, as this in turn affects the legitimacy and consistency of the study. These criteria can also act as mutually supportive, as they refer to different aspects which provides quality in the data material, while also to some level being overlapping as a high level of reliability can be a prerequisite for high validity (Grønmo 2004: 221). This implies that the collected data cannot be relevant to the research question unless they are also reliable, which is what reliability refers to in social studies.

4.4.1 Reliability

A high level of reliability requires the possibility of a study being conducted again, and resulting in the same evidential data (King, Keohane and Verba 1994: 25). Furthermore, reliability is conventionally divided into two forms: stability and equivalence. The stability refers to the level of compliance between the data and the same phenomenon, gathered by the utilisation of the same research design, but at different times. A stable research design would therefore amount in a high degree of compatibility of data gathered at different times (Grønmo 2004: 222). The equivalence, then, takes basis in the compatibility of data collected at the same

time, but by different researchers, and the level to which these coincide (ibid.: 223). For this project, the reliability has been catered to by documenting the strategy for the collection of data, and by the focusing on strategically and thoroughly following the system of categorisation. By doing so, it may be more likely that if the study was executed by someone else, following the exact same structure for data collection, it could very possibly yield the same empirical evidence. One weakness important to note in such a project, as qualitative research designs are quite flexible in nature, is that the level of flexibility could be perceived as problematic (Grønmo 2004: 245-6). However, this is still defensible as the chosen documents have been accounted for and the categorisation method provide a comprehensive framework for analysis, supporting the reliability of the study.

4.4.2 Validity

According to Maxwell (2005: 106), validity is best used as ‘the commonsense way to refer to the correctness or credibility of a description, conclusion, explanation, interpretation, or other sort of account’. However, this does not suggest that whenever the term validity is applicable it is referring to an ‘objective truth’, but rather it urges the researcher to look for threats to the validity of the research; the ways in which the results may be incorrect (ibid). Validity then, refers to the relevance or legitimacy, and depends on whether the data collection produces findings that can answer the research questions (Adcock and Collier 2001). It is therefore also necessary to operationalise theoretical concepts utilised in the study for the attainment of validity. According to George and Bennett (2005), case studies offer the possibility of achieving a high level of conceptual validity, since: ‘whereas statistical studies run the risk of “conceptual stretching” by lumping together dissimilar cases to get a large sample, case studies allow for conceptual refinements with a higher level of validity over a smaller number of cases’ (George and Bennett 2005: 19).

This would infer that theoretical concepts be operationalised to concrete indicators. If definitions are expanded or stretched, that would in turn weaken the precision of the definitions (George and Bennett 2005: 19-20). Accordingly, Adcock and Collier (2001) proposes that researchers should strive for the attainment of measurement validity, in which the empirical measurement of a phenomenon captures the content of the theoretical concept. It is then also necessary to attach the underlying topic to those definitions and concepts. Based on these definitions, it is necessary to operationalise to indicators, which can be used for categorisation of findings (Adcock and Collier 2001). In this project, the theoretical phenomena were

operationalised in the theory chapter, in which variations of cost-effective theoretical approaches were conceptualised and could therefore in coming sections be functional when providing categorisation for the data material.

It is also important that validity threats be considered when designing a research strategy, even though there is not one single procedure to be followed in this regard, as validity is dependent on the relationship between the drawn conclusions and reality (Maxwell 2005: 105). Brink (1993) argued that ‘qualitative researchers are not interested in causal laws but in people’s belief, experience and meaning systems from the perspective of people’, which implies that in qualitative research the methods used are rather subjective compared to quantitative research as they do not include statistical analysis and empirical evaluations in the same ways (Brink 1993: 35). By utilising categories as a tool for the evaluation of data in this thesis, and through the limitations provided in the description of those categories, the validity is assured by those categories being directly derived from the research problem and the underlying assumptions, and thus hopefully generating empirical findings that can be contributed to the understanding of the research problem itself.

5.0 Empirical Findings

Norwegian climate policy is founded on two parliamentary agreements on national strategy, which are consigned in settlements reached at the Norwegian Parliament, the *Storting* in 2008 and 2012. The first of these agreements on climate policy was adopted in 2008, and serving as the basis for the negotiations was the Stoltenberg coalition's Report to the *Storting* on climate efforts *Report no. 34 (2006-2007) to the Storting on Norwegian Climate Policy* (St. Meld. Nr. 34 (2006-2007)). This report took basis in NOU 2006:18 *A Climate Friendly Norway*, a report published by what became known as the Low-Emission Committee. The first climate agreement of 2008 also included a list of requirements comprised of 61 items compiled by the opposition parties, The Conservative Party (*Høyre*), Christian People's Party (*Kristelig Folkeparti*) and The Liberal Party (*Venstre*). Through *The Agreement on the Climate Report*, all parties, except for the Progress Party (*Fremskrittspartiet*), reached a settlement on several basic principles that they found should serve as the basis for Norwegian climate policy. The second agreement on climate policy came in 2012, and was based on *Report no. 34 (2006-2007) Report to the Storting: Norwegian Climate Policy* (Meld. St. 21 (2011-2012)). In addition to these three documents, there was also NOU 2009:16 *Global Environmental Challenges – Norwegian Policy*, a report which according to some authors (Sørensen 2015) served as an oppositional recommendation to that of NOU2006:18.

These documents have all served as foundational building-bricks for current Norwegian climate policy, and the rationale is thus that through examination of these official reports, it might be possible to gain insight which can provide answers to the initially presented research problem. Because these documents are quite substantial, and covers a wide array of issues related to climate change, environmental policy and a wide array of industries, some limitations of scope have been initiated. The empirical material will therefore be categorised according to those three categories which were presented in section 4.2.2. It is here contended that the appropriate way to systematically present the relevant content found in these documentary reports, would be to categorise findings from each document into subchapters of relatable empirical data.

5.1 Objectives, Mandates and Summary

In this first section, before moving on to categorisation of data, there will be a general presentation and description of those four documents constituting the empirical data.

5.1.1 NOU 2006: 18 *A Climate Friendly Norway*

By Royal Decree of March 11th, 2005, a committee was appointed to investigate the necessary measures if Norway was to be able to reduce greenhouse gas (GHG) emissions by 50-80 percent by 2050 on behalf of the Ministry of Environment. The Committee was then named the Low-Emission Committee⁹ and on October 4th, 2006, it presented Minister of Environment, Helen Bjørnøy, with its report *A Climate Friendly Norway* (NOU 2006: 18). As it is states initially in the research problem for this project, the objective is to evaluate those influential factors which may have been constraining on a more ambitious national policy for climate and environmental concerns over the past decade.

As previously established, this document was published in 2006, but as it served as such an important part of the further formulation of climate policy, it is my contention that it is necessary to include as it is highly relevant to the research problem and serving as a base for both the 2008 and 2012 Climate Agreements, and especially the first Report no. 34 (2006-2007). If the objective is to provide insight into climate policy-making over the past decade, it would then be nonsensical to *not* include a document which have, to such a degree, functioned as a building-block for this policy area to date.

NOU 2006:18 essentially consists of a total of 15 measures, all mainly directed toward specified and large sources of GHG emissions, apart from two rather general measures (no. 1 and 2), which the Committee included as it considered them a prerequisite for the other measures to be implemented (NOU 2006:18: 11). The 15 measures suggested are illustrated in the table 3.

Table 5: NOU 2006:18 'Committee's Overall Solutions'

Source of emission	Measure
<i>Basic/fundamental measures</i>	1: Implementation of a long-term national effort for climate information and persistent Climate Knowledge Campaign. Good and factual information about the climate problem and what can be done.
	2: Efforts to develop climate-friendly technologies through long-term and stable support for the Low-Emission Committee's technology package. This technology package focuses on CO ² capture and storage technologies, wind power, pellets and flame furnaces, biofuels, solar cells, hydrogen technologies, heat pumps, and low-emission vessels
<i>Transport</i>	3: Phasing-in of low and zero-emission vehicles such as hybrid cars, light diesel cars, electric cars, and fuel cell cars.

⁹ *Lavutslippsutvalget*

	4:	Phasing-in of CO ² neutral fuels such as bioethanol, biodiesel, biogas and hydrogen.
	5:	Reduction of transport needs through better logistics and urban planning. Development of phasing-in of low-emission vessels.
	6:	Development and phasing-in of low emission vessels.
<i>Heating</i>	7:	Energy efficiency in construction through stricter building standards, environmental labelling and support schemes.
	8:	Transition to CO ² neutral heating by increased use of biomass, better utilization of solar heat, heat pumps, etc.
<i>Agriculture and landfills</i>	9:	Collection of methane gas from fertilizer cellars and waste landfills or utilization of this for energy purposes.
<i>Process industry</i>	10:	Implementation of CO ² capture and storage from industry with large points of emissions.
	11:	Implementation of process improvements in power intensive industry.
<i>Petroleum industry</i>	12:	Electrification of the shelf and an increased proportion of the facilities located at land.
<i>Electricity production</i>	13:	Development of more 'new renewable' power through the development of wind and small power.
	14:	Implementation of CO ² capture and storage from gas and coal power plants.
	15:	Rehabilitation and efficiency of the grid to reduce network losses and provide smaller power plants easier access.

Source: NOU 2006: 18, p. 12, modelled and translated from table 1.1 '*Committee's overall solution*'

When assessing the division of those costs associated with the implementation of the proposed measures, the Low-Emission Committee recognizes that it will inevitably be costly to restructure Norwegian industry so that it can reach the necessary objectives set for GHG emission reduction. Therefore, it is proposed that some of the costs that would originate from implementation be placed upon the general community, while a substantial part should be burdened upon those actors in industries which pollute, as part of the necessity for them to produce and implement new instruments for their industry (NOU 2006:18: 12). Furthermore, there is a comprehensive debate surrounding the implications of climate change, and how the Committee recognizes that the concentration of climatic gasses in the atmosphere today constitutes an exceptional situation in which CO₂ concentrations, then estimated at about 380 ppmv¹⁰ were higher than it had been over the past million years.

Somewhat simplified, the committee divides the causes for this into two main categories: changes in outer drive and inner connection mechanisms (ibid.: 18). Furthermore, the natural climate variations had gained a new driving force: human induced emissions of greenhouse

¹⁰ Parts per million by volume

gases (GHG). Man-made climate change, caused by increasing levels of GHG emissions, especially CO₂ emissions, and combined with a reduction in the ecosystem's ability to assume CO₂, is then recognised as the largest climate and environmental threat which the world is facing (ibid.: 19). Taking basis in the conclusions of the IPCC¹¹, which states that human activity will most likely continue to constitute an increasingly dangerous harm on the environment in coming decades, the report remarks the imperativeness of providing sound climate mitigation policy which can assist in actual reductions of GHG emissions (ibid.).

In its concluding remarks, the Committee establishes that it is aware that Norwegian GHG emission reductions cannot 'save the world', however, it holds that the current GHG emissions are so high that radical changes are necessary, and is so demanding that the threat of indecision is severe. Still, the argument is made for Norwegian commitment to the cause:

'Therefore, it is pleasing for the committee to be able to refer to a number of measures which makes it possible for Norway, without making unreasonable sacrifices, so develop into a low-emission society – a climate friendly society by 2050' (NOU 2006:18: 111).

Relatedly, it is argued that by implementation of the proposed measures, that would serve as a valuable contribution to international development of technology, which is necessary for mitigation of climate change (ibid.: 30). Additionally, Norway could and should act as a 'role model' for other countries, especially based on the level of wealth which resides in Norway.

5.1.2 NOU 2009: 16 *Global Environmental Challenges – Norwegian Policy*

By Royal Decree as of May 30th, 2008, a committee was appointed on the behalf of the Ministry of Finance to investigate how sustainable development and climate could better be attended to in public decision-making. The appointed committee was chaired by then Director of Statistics Norway (SSB), Øystein Olsen, and most of the participating members were social economists, several of them alumni of the Department of Economics at University of Oslo, namely, Michael Hoel, Per Botolf Maurseth and Karine Nyborg. The committee would become known as the Olsen-Committee. In describing its mandate, the report establishes that:

¹¹ United Nations Intergovernmental Panel on Climate Change

‘The committee shall include a discussion of how valuation questions are connected to how long-term sustainability questions, especially related to climate change, loss of natural diversity and global proliferation of environmental toxins, are attended to through cost-benefit analyses in public sector’ (NOU 2009:16: 7).

Based on the interpretation of its mandate, the committee then introduces three topics; climate challenges, biological diversity and environmental toxins. In their understanding, these three topics are especially central to an assessment of how sustainable development is considered and safeguarded in public decision-making (ibid.: 8). Related to this assessment, they hold that international relations are especially important to these three main topics, and that Norway must therefore adhere to international frameworks on all three accounts. In its introductory, the committee references the findings of the *Stern Review on the Economics of Climate Change* (2006), which is here interpreted to have stated the importance of establishing estimations for future pricing of GHG emissions in society:

‘Time development for such pricing is uncertain, and it is therefore necessary to consider that not all GHG emissions necessary are covered by an international climate agreement. Considering this, the committee will assess appropriate methods for estimating the future development of pricing on GHG emissions and how such pricing information should be applied in social economic profitability analyses’ (NOU 2009:16: 7-8).

Moving on, the second chapter of the report considers the term ‘sustainable development’, and how there are implications connoted to the operationalisation and definition of the term, which is of importance, based on the mandate the committee have assumed.

‘There is, however, no clear definition or limitation as to what constitutes a responsible or decent exploitation of and strain on nature and environmental recourses [...] Instead, the expression must instead be perceived as a starting point for the deliberation on those principles which different considerations should be based upon’ (NOU 2009:16: 10).

While considering the mandate, the committee has then assessed how authorities in Norway should take into account the global environmental challenges which are present. Global, long-term and serious implications make it particularly perplexing when attempting to find solutions which both stimulates growth as well as maintains principles of sustainable development, and how to integrate these into public decision-making (ibid.) The committee has attempted to

recommend how this can be done, by offering a report constituting an economic profitability analysis approach to the issue of sustainable development, with a focus on cost-effective solutions and international cooperation through established frameworks for climate agreements.

5.1.3 St. Meld. Nr. 34 (2006-2007) Report to the Storting: Norwegian Climate Policy

As previously stated, there have been two Norwegian Agreements on Climate Policy in the parliament, which have set the precedence for Norwegian climate policy. The first of these was in 2008, and serving as the foundation for the negotiations were the Stoltenberg II governmental report, on recommendation from the Ministry of Environment of June 22nd, 2007, and approved the same day, *Report to the Storting No. 34 (2006-2007) Norwegian Climate Policy* (hence referred to as ‘St. Meld. Nr. 34 (2006-2007)’). Initially, the report begins by providing a summary of those climatic challenges which the world is facing, based on the fourth United Nations Intergovernmental Panel on Climate Change (IPCC) report of 2007. Here, it was established that the concentration of CO₂ and methane in the atmosphere was far beyond the natural variations over the past 650 000 years, and the report provided six scenarios for climate change for the century based on the preconditions of demographic, economic and technological development. Five of these projected global warming of above 2,4 Celsius, with the most drastic scenario resulting in above 6 degrees increasing temperature (St. Meld. Nr. 34 (2006-2007): 11).

Based on the EU resolution that states ambitions for stabilising increasing temperatures at no more than 2 degrees above pre-industrial time, the government proclaims its adoption of an equivalent objective of limiting the global temperature increase at the established level (ibid.: 20). In the third chapter, the report established the government’s climate political objectives, and principles forming the formulation of that policy. These can be summarised as three main objectives which form the main objective of what sound climate policy should aim to fulfil:

- Norway shall be carbon neutral by 2050
- Norway shall in the years to 2020 take on a commitment to reduce the global GHG emissions equivalent of 30 percent of Norway’s emission levels in 1990
- Norway will sharpen its Kyoto commitment by 10 percentage points to 9 below 1990 levels

(St. Meld. Nr. 34 (2006-2007): 36).

Central to the strategy that is discussed in this report, is that means for national climate policy should be general; sector-wide economic instruments must provide the basis for decentralised, cost-effective and informed measures, in which the polluter pays (ibid.: 46). As it takes basis in the aims for Norway's emissions in 2020, the government states that its ambitions are to implement emission reduction measures both in Norway and in other countries. The necessity of industrialised countries to bear their share of the burden in reducing dangerous GHG emissions is also established as crucial. In the report, sectoral industries are reviewed individually, and there are proposed general means for how to achieve emission reduction in each sector, however, with an overarching focus on the cost-effectiveness of those measures. The perils of climate change are also established adamantly, in sentiments which still includes the awareness of Norwegian economic performance possibly being affected by such environmental degradation:

‘Impacts in other countries that are more vulnerable to climate change can affect international trade patterns and have major ripple effects on the Norwegian economy. The climate convention with the Kyoto Protocol are important milestones in the effort to reduce global emission of greenhouse gases. Measures and instruments in this parliamentary report will, together with the quota system and the CO₂-tax, ensure that Norway fulfils its obligation under the Kyoto Protocol’ (St. Meld. Nr. 34 (2006-2007): 147).

5.1.4 Meld. St. 21 (2011-2012) *Report to the Storting: Norwegian Climate Policy*

Following the Agreement on Climate Policy reached in Parliament in 2008, a new settlement was reached in 2012. Serving as the basis for the negotiations, was a governmental report issued by the Ministry of Environment, commission by the Stoltenberg II coalition, called Meld. St. 21 (2011-2012) *Norwegian Climate Policy*. Introductory-wise, the report established that the main objective of the government is that climate policy should be aimed towards achieving sustainable solutions:

‘Sustainable development should be a fundamental principle for all development in Norway and the world. The government's sustainability strategy presented in the National Budget for 2008, confirms that a policy for sustainable development must be founded on principles of fair distribution, international solidarity, the precautionary principle, the principle that the polluter pays and joint effort’ (Meld. St. 21 (2011-2012): 8).

Sustainability is hence a principle which constitutes social justice between generations, and consists of three main dimensions; ecology, economics and social. It is established that in order to achieve sustainability, it is imperative that a long-term perspective forms the basis for social development and that choices which can have negative consequences for future generations' options and ability to meet their need are avoided (ibid.: 11). The government's updated sustainability strategy, which was presented in the 2012 National Budget, states that a policy for sustainable development must be based on the following key principles:

- Fair distribution
- International solidarity
- The precautionary principle
- The polluter-pays principle
- Joint Efforts
- Nature's tear boundaries
- Control/Management efficiency
- Cost-effectiveness

(Meld. St. 21 (2011-2012): 84-5)

It is then stated that the government's overall objective is to contribute to the UN-led climate negotiations leading to a broad climate agreement that ensures development in line with overarching objectives of international emission reductions. According to the UN Intergovernmental Panel on Climate Change (IPCC), such a development would require that the global emissions of GHG be reduced by 50-85 percent by 2050, compared to 2000 levels (Meld. St. 21 (2011-2012): 7). Following the Agreement on Climate Policy, Norwegian climate policy is adapted towards the following overarching objectives:

- Within the Kyoto Protocol's first commitment period, Norway will strengthen its commitment by 10 percentage points.
- By 2020, Norway will undertake a commitment to cut global emissions of GHG equivalent to 30 percent of Norway's emissions in 1990.
- Norway shall be carbon neutral by 2050
- As part of a global and ambitious climate agreement, where other industrialised countries also take on major commitments, Norway will have a binding carbon neutrality target by 2030. This means that Norway will provide emission reductions equivalent to Norwegian emissions by 2030.

(Meld. St. 21 (2011-2012): 9).

Furthermore, based on the government's political platform as it stands in the Soria Moria II, the government will thus strengthen Norwegian climate objectives so that they are equivalent to emission reductions at 40 percent in 2020 compared to 1990 levels, if this may contribute to an arrangement of an ambitious international climate agreement where the larger polluting countries assume concrete emission reductions obligations (ibid.). There is also some consideration initially regarding those challenges which Norway may face when implementing measures for emission reduction, especially how international economic development may be decisive for the costs:

'Since the climate report was published, and the Climate Agreement was adopted international carbon pricing have increased, and the costs of reducing emissions in Norway have been substantially adjusted upwards [...] Less progress in the development of climate friendly technology, higher costs of climate measures domestically, increased immigration and economic growth, and more emissions from the petroleum sector will be decisive for whether the climate objectives are reached' (Meld. St. 21 (2011-2012): 10).

Furthermore, the government's political platform, Soria Moria II, holds that the government will intensify Norway's climate target so that it is equivalent to 40 percent of emissions by 2020 compared to 1990 levels, however, this depends on the extent to which it can help get in place an agreement where major emission countries undertake specific emission commitments (ibid.). The report also goes to some lengths in establishing the level to which Norway acts as a responsible actor on climate and environmental policy:

'There is a wide political consensus that Norway should assume responsibility. Over many years, Norway has therefore been among those countries in the world utilising the strongest measures for climate policy. We have also set ambitious targets for reduction of national emissions and restructuring Norway into a low-emission society by 2050' (Meld. St. 21 (2011-2012): 9).

As one concrete measure established by the report is the funding of a new technology initiative. Here they hold that since most technology developments occur in and is financed by the private sector, the most important tool for technological development is to price GHG emission. When emissions are priced, it becomes more profitable to cut emissions and to develop new, climate

friendly technology (ibid.). The new technology initiative, will also include the establishment of funding for technology development:

‘The technology initiative will be financed from a new fund for climate, renewable energy and energy conversion, as well as parts of the means released because of implementation of e-certificates. The fund for climate, renewable energy and energy restructuring will be established with basis in Enova’s Primary Fund in two parts. One which preserves the present duties of Enova, and one which preserves the new pledge to climate technology’ (Meld. St. 21 (2011-2012): 12).

From this, the main objectives can be perceived as the government wanting to work towards wide and an ambitious climate agreement in line with the 2-degree target, which constitutes concrete obligations and emission reductions for both industrial countries and developing countries (ibid.: 16).

5.2 Category 1: Policy Recommendations Founded on Cost-Effective Principles

In this section I will review findings from the empirical data relatable to the category defined as ‘cost-effectiveness’, meaning that the main focus is on what rationalisations there are for the way costs should be considered when instigating measures for climate policy. The findings are, as they will be in the coming categories, reviewed by documents in chronological order.

5.2.1 NOU 2006:18 – Cost-Factors and Emission Reduction

According to the Low-Emission committee, all measures for reduction of GHG emissions will have a substantial cost-factor. Developing and installing new technology is necessarily costly, and especially, in their introductory phase, these new technological solutions will often be more expensive. In addition to such direct costs, there are also costs associated with the changing prices and adaption to climate change. In summary, the committee presents three main elements of costs associated with climate change:

1. Reduction costs directly associated with measures for reduction.
2. Reconstruction costs associated with changes in the industry structure.
3. Adaption costs associated with climate change.’

(NOU 2006:18: 103)

Furthermore, as the report attempts to establish measures which can lead to Norway becoming a low-emission society by 2050, it is stated that it is inherently difficult to estimate costs associated with climate change within a time perspective of 45 years. International development, in the meaning of international agreements as well as new technological innovations, will be of huge importance, especially for a small and open economy such as the Norwegian one. Radical changes in the consumption of non-renewable sources of energy, such as oil and gas, would constitute a substantial threat to the Norwegian economy, as it is largely dependent on revenues from the petroleum sector. However, the committee still concludes that such economic costs would be necessary:

‘Even though Norway could lose on a global decrease in demand for petroleum products, the committee believes that the threat the world faces in terms of continued large greenhouse gas emissions is so serious that Norway must work internationally for large emission reductions’ (NOU 2006: 18: 104).

Thus, after reviewing the overall solutions to Norwegian mitigation measures, the committee states that:

‘In the view of the committee, there is no basis for claiming that the committee’s overall solution would become costly in a national sense. The committee also believes that with sound utilisation of time until 2050, conversion costs will be small’ (NOU 2006: 18: 107).

The Low-Emission Committee holds that Norway could, and should, act as a ‘role model’ for other countries, especially based on the level of wealth which resides in Norway. The committee postulates that the necessary national restructuring can indeed happen without drastic costs, even though the process might still be perceived as dramatic to those groups or sectors of society which are implicated by the suggested measures. To lower costs of restructuring and reduction, it is argued that it will be necessary to focus on measures for reduction immediately, and in all cases, avoid the creation of new sources of GHG emission (NOU 2006:18: 111). If nothing is done, it is suggested that Norwegian GHG emission levels will increase by an estimate of 70 MtCO₂e per year until 2050, with basis in the year of publication (2006), which was 55 MtCO₂e (ibid.). The main conclusion is thus:

‘The main conclusion of the committee is that it is necessary, doable, and not impossibly expensive [to initiate measures]. Still, the committee recognises that it can be difficult to implement those necessary measures to reach the stated goal by 2050, and to start work on emission reduction early enough’ (NOU 2006:18: 111-112).

5.2.2 NOU 2009:16 – The Importance of Social Economic Analysis

The principle of ‘cost-effectiveness’ makes up the sole foundation of the Olsen-Committee report, as it is a thoroughly discussed objective which is extensively utilised in its discussion as well as the recommendations. Initially, it is stated that cost-effectiveness must be elevated as a guiding principle for all work on sustainability, and that evaluation of related measures must be further developed, and consequences systematically utilised as a horizontal tool (NOU 2009:16: 13). At several occasions, it is stated that the challenges related to climate change is a global environmental problem, and it does not matter from where the emissions of dangerous climate degrading gases are emitted, because they have the same effect on the overall climate (ibid: 26). Therefore, the measures formulated must be cost-effective:

‘The majority of cost estimations that are suggested would presume a cost-effective approach to implementation of emission reducing measures. We know less of the related costs if a small group of countries were to implement changes alone, and it would not at every time be the cheapest cleansing measures globally utilised. There is also reason to hold that the costs will rise if countries do not choose cost-effective policies, for example, if some sectors are sheltered, and other sectors must then be subject to higher carbon prices’ (NOU 2009:16: 32).

Therefore, the committee argues it is necessary to initiate measures which are compliant with the criteria of cost-effectiveness and management efficiency. In principle, both a global tax on emissions and a global quota market for trade of emission rights, would constitute a possibility of realising these criteria. However, they somewhat deviate with regard to management efficiency, as it is held that in a global quota market, it would be known the level of emissions, but hard to calculate the price on emissions. If there is a global tax on emissions, however, that would in turn lead to the price being controlled, but not actual emissions (ibid.: 32). Thus, a combination of both a global market and a set tax would possibly yield a context closest to the principle of management efficiency.

The term ‘cost-effective’ occurs a total of 53 times in the report, and the language is widely academic and professionally affiliated with economic tendencies. The main message regarding cost-effectiveness is simple: all political decisions should be made based on ‘thorough socioeconomic analysis’, and not least assessments of the connection between cost and benefit (NOU 2009:16: 19). This can also be articulated as such:

‘A socioeconomic analysis would not in itself provide a singular solution as to how Norwegian climate policy should be formatted. It is also necessary to take basis in those targets which the government has establishes for its climate policy, and the criteria which are present for reaching those targets. An important requirement is to assess if the implementation of targets can be related to a cost-effective approach to international commitments, or if there are other considerations as to how Norwegian climate politics affects global emissions’ (NOU 2009:16: 88)

It is also argued that if authorities decide the level of cleansing each business should have to assume, there would be no guarantee that a different distribution of cleansing would not yield higher reductions at a lower cost, therefore, they emphasise management efficiency at the expense of direct regulations (ibid.: 33).

In its assessment of the climate issue, biological diversity and climate taxes, the report establishes that there are a number of ways in which environmentally degrading emissions and intervention in nature can devastate or confound communal resources, such as the atmosphere, water resources and ecosystems. As opposed to ordinary market benefits these communal resources do not have a set market price, and they are therefore coined as *collective benefits*. It is therefore proposed that authorities should attempt to establish a market price on all natural resources, either by utilising data from goods and services which are present in the natural area, or by enquiring those persons affected by extraction of such goods. The way to do so, is here suggested to be, through the term of cost-effective analysis: by describing the costs by a measure and its consequences, without requiring that all effects shall be valued in currency. In some cases, there is a singular effect of a target, for example in the form of international climate commitments, which would necessitate finding the cheapest way of achieving those targets (ibid.: 66). In such cases, that would constitute a cost-effectiveness analysis.

There are especially three measures which the Olsen-Committee finds central to the assessment of possible measures for GHG emission reductions: First, there needs to be a consideration of what the price for GHG emissions should be, in a situation where there is not a complete global agreement on GHG emission reductions. Second, there must be a deliberation of whether such a price should be implemented on all sectors of the economy, or if it is preferable with more differentiated tools. Third, it is necessary with an evaluation of the implicated uncertainties that future quota prices may have for an ideal climate policy (ibid.: 88).

Additionally, the Olsen-Committee holds that Norway should not just assume that those flexible mechanisms proposed in the Kyoto Protocol will result in actual emission reductions. First, they argue that it is possible that strict regulation of moveable emissions sources, could result in such business to relocate to other countries which had not assumed commitments in the protocol, instead of reducing emissions domestically. Second, Norwegian purchasing of Kyoto quotas (AAUs) from countries with a surplus of quotas is held to not necessarily result in GHG emissions. Third, they argue that it is obvious that the system of project based quotas from countries not under quantitative commitments (CDM) in all cases will result in real and formal emission reductions (NOU 2009:16: 89) Alternatively, the committee recommends that Norway should, instead of fulfilling its Kyoto Protocol commitments cost-effectively through the available mechanisms, only fulfil them through measures which can be assured to lead to actual GHG emissions reductions (ibid.).

Also, and relatable to cost-effectiveness, is the way the Olsen-Committee perceived domestic targets for Norwegian GHG emissions:

‘Reduced domestic emissions would not affect the global emissions as long as Norway is under commitment to reducing emissions internationally. Increased demands for emission reductions for businesses which are under the EU ETS, would marginally reduce the EU quota price. As long as Norway partakes in the international quota trading scheme, the only way to secure global emission reductions would be to go beyond those commitments set by cancelling out quotas’ (NOU 2009:16: 101).

The committee therefore holds that possible domestic targets must be related to the collective Norwegian emissions, and not to any singular sector. Targets set for singular sectors would lead

to Norway complying with its target in a way that would not be cost-effective, which is why it should rather focus on a collective domestic target for emission reductions (ibid.).

5.2.3 St. Meld. Nr. 34 (2006-2007) – Cost-Effectiveness as a Key Principle

A central theme in this report is the focus on cost-effectiveness as a key principle for Norwegian climate policy: ‘Norwegian climate policy is founded on recognised and established principles and criteria. Management efficiency and cost-effectiveness are two criteria which are central to the climate policy’ (St. Meld. Nr. 34 (2006-2007): 36). Both principles are discussed extensively throughout the report, and there is a section devoted to the clarification of these terms. Here, cost-effectiveness is defined as entailing: ‘that the means release measures which provide the largest amount of emission reduction for those resources being set in.’ (ibid.: 48). If policy-making does not follow the principle of cost-effectiveness, it is here argued that this would require society to renounce unnecessary welfare in other policy fields to achieve the environmentally political objectives.

Cost-effectiveness in climate policy is then stated to be achieved if decision-makers in all of society are presented with the same incentives to reduce their emissions. For example, general environmental taxes should in principle constitute a cost-effective tool, as long as it is imposed on all actors equally (ibid.). Cost-effectiveness thus establishes the necessity of sectoral and general means, founded on international mechanisms such as those presented in relation to the Kyoto Protocol, and assessed in section 2.2.1-2.2.3. This sentiment is articulated through formulations such as:

‘General means are central to Norwegian climate policy. Cross-sectoral economic tools provide the foundation for decentralised, cost-effective and informed measures, where the polluter pays. After having joined the European quota market, approximately 70 percent of the national emission will be subject to quotas or CO₂-tax’ (St. Meld. Nr. 34 (2006-2007): 46).

Another criterion which originates within the logic of cost-effectiveness, is that the polluter always pays, which states that those who pollute must be held responsible for the costs which are added to society. Furthermore, management efficiency, which can also be related to economic implications, is here defined to be a situation in which ‘the chosen measures should lead to the objectives being accomplished at the highest level of certainty’ (ibid.: 48). This is especially important regarding international commitments. Related to GHG emissions,

management efficiency implies that Norway must fulfil its Kyoto commitment through a combination of national tools as well as those three flexible mechanisms introduced by the Kyoto Protocol (St. Meld. Nr. 34 (2006-2007): 48).

An international quota system is also a cost-effective tool in principle, as it establishes a quota price that also places international players within the system facing the same incentives for emission reductions:

‘The cost-effectiveness of the quota system would, however, depend on that system being formed so that the actors are given effective incentives for emission reductions. The management-efficiency is secured by the total emission level being set so that the environmental objective is reached’ (St. Meld. Nr. 34 (2006-2007): 48).

Therefore, it is the design of the quota system which decides the level to which results can be deemed cost-effective. The quota price would then necessarily be generated with basis in supply and demand, following traditional principles for market functionalism. International quota trading is argued in the report to facilitating in creating a common international price on GHG emissions and thus functions as a cost-effective mean, across national borders. The main argument is thus articulated as such: ‘Since reductions in greenhouse gas emissions have the same effect wherever in the world they occur, climate policy should place great emphasis on global cost-effectiveness’ (St. Meld. Nr. 34 (2006-2007): 48).

According to those existing international agreements already established, the report also finds that through cost-effective solutions, there is a better possibility of new agreements providing a higher level of ambition, if they are based on cost-effective principles:

‘Cost-effective measure increases the possibility of achieving a wide political accept. A cost-effective implementation could provide sufficient facilitation for collectively setting higher ambitions. In the UN Convention for Climate Change it is emphasised that climate policy and measures should be cost-effective to achieve the most global gain at the lowest cost’ (St. Meld. Nr. 34 (2006-2007): 48).

Related to this, it is then imperative that the frameworks and conditions set for such cooperation are credible and that authorities provide environmental objectives and information regarding developing quota prices which are easily accessible to those actors they are imposed on. If this

is done sufficiently, it is argued that private actors would be able to make investments based on the best quotations, and thus have a better indication of the associated risks (ibid.: 49). Additionally, cost-effective climate measures are perceived as possibly having a positive macroeconomic impact, while at the same time, having distribution effects by reducing emission-intensive industries' profitability compared to other environmentally friendly industries (ibid.: 147).

When assessing climate policy based on principles of cost-effectiveness and management-efficiency, there is also the issue of providing incentives for development of new technology. Here, the report argues that the differences between private and socioeconomic profitability assessments implies that there will generally be little research and expansion of such technologies in the private sector:

'Uncertainty regarding future quota prices can reinforce this market functionality. This implies that the state subsidises the development and testing of new technology, possibly in the early commercialisation of the technology, to reduce this uncertainty and to achieve positive external impacts in the form of proliferation of climate-friendly technology. Such motives lie behind the government's decision to contribute financially to the development of CO₂ capture and storage technology' cost' (St. Meld. Nr. 34 (2006-2007): 49).

These projects would, however, not be recognised as profitable at the current time of investment, but would possibly be able to contribute to positive market functionalities on later occasions. A prerequisite for such investments, would be that the quota prices and taxes imposed on such sectors would be sufficiently high, as this is the only measure truly capable of securing a cost-effective approach (ibid.: 50).

5.2.4 Meld. St. 21 (2011-2012) – Continuation of Cost-Effectiveness in Climate Policy

Initially, the government proposes the principle of cost-effectiveness as one which should be provided as the basis for all implemented climate policy in Norway, as well as internationally:

'Climate policy must be designed so that it provides the most emission reductions for the effort provided and gives emission reductions both in Norway and abroad. General means are central to the national climate policy. Cross-sectoral economic measures provide the foundation for decentralised, cost-effective and informed measures, in which the polluter pays. Areas covered

by general measures, shall as a main rule not be covered by additional regulations' (Meld. St. 21 (2011-2012): 8).

The government will also especially consider those measures that are cost-effective in light of an expected rising carbon pricing over the lifespan of investments, and which are not necessarily triggered by the current measure utilisation. This is here held to be especially relevant when considering measures that contribute to technology development and measures which mobilise the public to an earlier restructuring through consumption patterns resulting in lower emissions (ibid.: 9).

In its discussion of the existing flexible mechanisms introduced through the ratification of the Kyoto Protocol, these are also deemed cost-effective: 'Flexible mechanisms contribute to a more cost-effective regime by reducing climate emissions where they are the least costly, while simultaneously reducing the total emissions as set by the Kyoto Protocol' (Meld. St. 21 (2011-2012): 48). Most important is the consideration that emission reductions in industrialised countries usually constitutes a higher cost, and therefore, the focus should be on committing to emissions where they can be done at the lowest price:

'The costs associated with emission reductions varies among countries and measures. The majority of the cheapest measures can be done in developing countries. An international system for flexible mechanisms can open for countries cutting their greenhouse gas emissions in other ways than by solely reducing emission nationally. The mechanisms thus provide incentives for realising the cheapest emission reductions first, which is in line with the established principle of cost-effectiveness' (Meld. St. 21 (2011-2012): 59).

The main advantage attributed to cost-effectiveness in climate mitigation policy, is here argued to be that such measures would make decision-makers across the community faced with the same incentives to reduce their GHG emissions. Thus, a comprehensive price set on all GHG emissions constitutes an example of a cost-effective tool. This sentiment can be capsulated in statements such as:

'Cost-effectiveness implies that the measures trigger other measures which provide the greatest possible emission reduction for the resources that are being inserted. If one moves away from cost-effective climate policy, society must sacrifice unnecessary welfare in other areas, while making it more difficult to achieve climate policy goals' (Meld. St. 21 (2011-2012): 85).

If authorities are to achieve a fully cost-effective solution to the objective of a global stabilising target, such as the 2-degree target, this would then necessitate that incentives to reduce emissions are the same in all countries: ‘Since reductions of greenhouse gases have the same effect wherever they are achieved, climate policy should emphasise a global cost-effectiveness’ (ibid.: 86-7). Additionally, general means are held to be central to Norwegian national climate policy; ‘cross-sectoral economic measures provide the foundation for decentralised, cost-effective and informed measures’ (ibid: 95). In Norway, the most important cross-sectoral measures for climate policy, are the CO₂ tax, the quota system and the Pollution Act. Additionally, there are also several other measures, such as more general environmental agreements, information and support schemes, which can be both cross-sectoral or sector specific. In 1991, the CO₂ tax was implemented in Norway, constituting one of the first cases where such a tax was utilised. The purpose of the tax was to:

‘...contribute to cost-effective reductions of CO₂ emissions. This has been, and still remains, an overarching objective that Norway shall be a forerunner by implementing measures which can contribute to cost-effective emission reductions in which the polluter pays’ (Meld. St. 21 (2011-2012: 95-6).

The development during the 1990s illustrated that there was a limited willingness internationally to implement taxes as the main measure for climate policy. In Europe, different alternative measures were discussed which could both be cost-effective while also contributing to securing a joint European level of ambition. Here, the government perceives the quota system in combination with a CO₂ tax as measures which can provide securing regarding the maintenance of the cost-effective principle (ibid.: 97).

5.3 Category 2: Policy Recommendations for the Petroleum Sector

This category takes basis in the assumption that the role of the petroleum sector, as it has been pivotal for the Norwegian economy and the expansion of a substantial Norwegian welfare society, has been influential to the extent that there are little concrete policy measures suggested imposed on this sector. Therefore, in this category all considerations regarding the petroleum sector found in the documentation will be presented.

5.3.1 NOU 2006:18 – Electrification of the Norwegian Continental Shelf

The role of the Norwegian petroleum industry and its effect on Norwegian domestic GHG emission is extensively emphasised and evaluated in the report. In 2004, the extraction of oil and gas was responsible for 25 percent of collective GHG emissions in Norway – an increase of approximately 15 percent compared to 1990 levels (NOU 2006:18: 79). Emissions originating from the sector are therefore the ones which have grown most rapidly during that period. Especially emphasised is how the usage of gas in turbines constitutes a substantial contribution to the rising emission levels. Furthermore, it is held that even though the business of oil and gas, in the stated period, has been of great significance and importance to the Norwegian economy, it is evident that there will need to be a substantial reduction in level of activity from the industry over the coming decades (ibid.).

Additionally, there is considerable attention devoted towards assessing the impact which reduction in demand of petroleum commodities would have for the Norwegian economy. If Norway were to substantially reduce export of petroleum products, the committee finds that this will not necessarily lead to reduced emissions, and could instead have the opposite effect, provided one trust the contention that Norwegian petroleum production utilises more environmentally sound technology than many other countries (NOU 2006:18: 53). However, reduced levels of export could have implications for Norwegian economy:

‘Norwegian economic activity would be reduced by reducing export from Norway, at least until there is an implementation and restructuring of new export activities. The economic activity would become more permanently reduced if alternate business activities are not as productive as the export-oriented activity. GDP in Norway would thus decline as a result of that measure’ (NOU 2006:18: 53).

As mentioned introductory-wise, the Low-Emission Committee proposed 15 main measures directed at specified sectors responsible for large sources of GHG emission. Among these, with the exception of those two general measures not industry specific, only one is directed toward the petroleum sector, namely measure no. 12: ‘Electrification of the shelf and an increased proportion of the facilities located at land’ (NOU 2006:18: 12). Besides the extensive discussion of the petroleum sector at large, most of the remaining evaluation of this sector is then devoted toward how this measure may be implemented, its implications for industry activity and those affiliated costs.

At the time of the report, it is held that only a quarter of the total petroleum resources available in Norwegian offshore fields have been extracted, which is postulated as evidence that the petroleum industry has acted with basis in a long-term perspective, while following a reasonable pace of extraction. Furthermore, it is assessed that if petroleum activity is to continue, oil and gas pricing must be maintained at a sensible level, while the industry and regulative authorities must put effort into developing resources in a cost-effective manner, and, handle the challenges of environmental degradation in a proper and responsible way (NOU 2006: 18: 79). As stated initially, the main measure for GHG emission reduction suggested for the petroleum industry, is the electrification of the shelf. This measure would presuppose that there are sufficient power resources which can be transferred from land based power sources, eventually in combination with the development of offshore wind power (ibid.: 80).

Power production based on natural gas and diesel oil is the main cause of CO₂ emissions from the Norwegian continental shelf. Placing in on second place, is gas flaring. In theory, gas flaring is prohibited, except for to the extent it must be done because of a security necessity. The level of flaring is, however, relatively low in Norway when comparing it to other countries (NOU 2006:18: 80). The operated shelves have turbines both for power production and for the direct operation of compressors and pumps. It is stated that turbines for direct operation cannot be replaced by land-based power without being replaced by electric engines. This, it is concluded, would be an extremely comprehensive and expensive process (ibid.).

The Low-Emission Committee finds that if by 2008 all electricity producing turbines were replaced, this could constitute a reduction of 4,7 MtCO₂¹², and if *all* turbines on the shelf were replaced by land-based power, it would reduce CO₂ emissions by 9,4 million tonnes per year, an estimate produced by the Oil Directorate and the Norwegian Water Resources and Energy Directorate (NOU 2006:18: 80). Replacing a larger part of gas power on the shelf with land-based power is thus argued to be an important measure for reduction of CO₂, if power is generated without any significant CO₂ emissions. Also, it is proposed in the report that if wind turbines adoptable to deep sea could be applied, then these could offer the Norwegian shelf with a substantial level of the necessary electricity (ibid.). Electrification of the shelf is hence argued to be a measure which could substantially reduce CO₂ emissions from the sector:

¹² MtCO₂ is Metric Tonnes of Carbon Dioxide equivalents

‘In principle, CO₂ emissions from energy production on the Norwegian shelf could be reduced to zero if renewable energy from land and wind turbines at large sea depths could supply the petroleum industry on the Norwegian shelf. This would yield a maximum reduction in emissions of 3,6 MtCO₂/per year 2020 and 2,4 MtCO₂/per year in 2050’ (NOU 2006:18: 81).

Additionally, the committee presents an assessment of the associated costs of electrification of the shelf. In a joint project directed by Oil Directorate and The Norwegian Water Resource and Energy Directorate, a calculation of the social economic costs related to electrification of the shelf has been conducted. This analysis was conducted on the three areas Southern North Sea, the Oseberg area (including Troll B and C) and the Norwegian Sea. The gross accumulated emission reductions on the shelf over the entirety of the period of analysis, assuming that power from land has zero emissions, is estimated at 25 MtCO₂. The necessary investment to achieve these savings, would be somewhere close to 10 billion NOK. The Low-Emission Committee also holds that it is likely that most of the petroleum activity in 2050 will be land-based, which in turn would make it easier to have this activity powered by renewable land-based electricity.

5.3.2 NOU 2009:16 – General Measures Implicating the Petroleum Sector

Most evident when assessing how the Olsen-Committee regard the petroleum sector in its report, is the extent to which it is *not* mentioned in the report. At over 170 pages, the petroleum sector is barely mentioned, and, to a large extent only as a note in a parenthesis. The word ‘petroleum’ only occurs 12 times in the report, on several occasions only when establishing the functionality of the quota scheme and CO₂ tax. As it is necessary to strictly review all references which can be implicated in the categorisation, this section will still deliberate on those few references made to the sector.

The committee initially establishes how Norway has had a long experience with implementing taxes on business in its climate policy, which were introduced and became more extensively applied during the late 1980s and early 1990s to reduce environmentally damaging emissions to air and water. Here it is established that Norway has been a frontrunner when it ‘introduced CO₂ tax on gasoline, auto diesel oil, mineral oil and petroleum extraction’ (NOU 2009:16: 18). Also, it is pointed out that Norway was early when introducing legislation that demanded environmental assessment regarding new projects in several sectors. Mentioned as such sectors

which these forms of legislation have applied to, are, construction and pollution laws and sectoral legislation, as for instance regarding the petroleum law (ibid.: 19).

In its discussion of the potential to limit GHG emissions, the report asserts that the most important sources of an increasing level of GHG emissions in the world can be attributed to increased economic activity and a growing population:

‘Increased economic activity contributes to increased energy consumption, which again leads to increased emissions. More effective energy exploitation will contribute to stagger the emissions growth, however, not enough to counteract the effect of increased economic activity’ (NOU 2009:16: 29).

This is here relevant to its mentioning of the petroleum sector, because it then goes on to establish that even though oil and gas extraction accounted for 26 percentage points of Norwegian CO₂ emissions at the time of publishing, this was because Norway constitutes a special case internationally:

‘...Norway produces all its electricity from hydropower, and it has a large petroleum sector. This special situation and business constitution makes it relatively expensive for Norway to reduce emissions’ (NOU 2009:16: 29).

Moving on, there are only a few relevant remarks left considering Norwegian petroleum activity. First is the short assessment of high and increasing emissions of VOC¹³ emissions, which especially comes from shipping industry related to petroleum production on the Norwegian shelf, and is here held as a long-term challenge for Norway in its compliance with international climate agreements. However, the report goes a long way in its indication that there have been taken active measures to reduce such emissions:

‘From 2001 to 2008, Norwegian VOC emissions were more than cut in half, where 80 percentage points of the reductions came from the shelf, after development and utilisation of more technologies for collection and usage of these gases, an area where Norway is ahead internationally’ (NOU 2009:16: 111).

¹³ Volatile Organic Compounds

Additionally, there are the remarks made considering chemical connections in world trade, which have grown exponentially over the past 80 years or so. Here, the problem lies in production of synthetic organic chemicals, especially petroleum based plastic and other petrochemical production, which have been multiplied by thousands since 1930, when this form of production started (ibid.: 122). Finally, the petroleum sector is mentioned in a brief consideration of energy efficiency regarding the Norwegian continental shelf:

‘The petroleum business is today dependent on offshore gas turbines for energy sourcing. These turbines have an efficiency level of 30 percentage points compared to gas powered facilities on land, which have efficiency levels of 50 percent, making it possible with energy efficiency improvements in the energy sourcing on the Norwegian continental shelf’ (NOU 2009:16: 144).

This last passage is the only reference to the petroleum sector which considers any policy recommendation, in the form of sourcing energy to the Norwegian continental shelf. However, there are no concrete suggestions as to how to achieve this, only that it could constitute a context which could yield some GHG emissions reductions (ibid.: 144).

5.3.3 St. Meld. Nr. 34 (2006-2007) – Combining Measures

There is an extensive amount of consideration devoted to the petroleum sector and its activity throughout the report. Introductory-wise, the report states that the three largest sources of emission in Norway are transport, process industry and petroleum activity. Based on the distinctive structure of Norwegian energy related industry, the composition of emissions in Norway are held to be distinct when compared to most industrialised countries; more than 40 percent of energy consumption domestically comes from renewable energy sources (St. Meld. Nr. 34 (2006-2007): 25). Here, they make some notion of the importance of the petroleum industry and its contribution to Norwegian emissions:

‘Over the past 40 years, Norway has developed an oil and gas industry which today constitutes the largest industry and which is responsible for approximately one quarter of Norwegian greenhouse gas emissions. The emissions from the petroleum industry will begin to decrease as a result of reduction in production on the Norwegian shelf, and will eventually disappear completely’ (St. Meld. Nr. 34 (2006-2007): 26).

At the time of publishing, the petroleum sector more accurately accounted for 29 percent of national CO₂ emissions, 90 percent of which was related to power generation and 10 percent generated by flaring. In the period 1990-2005, there was an increase in emissions from this sector at just below 80 percent, however, CO₂ emissions per produced oil equivalent had been reduced by approximately 21 percent in the same period (St. Meld. Nr. 34 (2006-2007): 96). Additionally, the report goes to some length in ascertaining that Norwegian petroleum activity is among the purest in the world:

‘The Norwegian petroleum sector is the cleanest in the world. Norwegian CO₂ emissions per produced oil equivalent are only one third of the international average per oil equivalent, and less than half of those level present in Denmark and the United Kingdom’ (St. Meld. Nr. 34 (2006-2007): 68).

Furthermore, the report ascertains its awareness that since oil and gas production activity is based on extraction of non-renewable resources, this industry and the extraction of such products will inevitably have limitations concerning time prospects, and will thus eventually have to be phased out (ibid.). It is assumed, based on the Revised National Budget of 2007, that production and emission of CO₂ would increase until 2013, and then fall sharply by 2050, and thus:

‘The petroleum sector will, within this perspective, provide a substantial contribution to reduction of Norwegian emissions of greenhouse gases compared to current emission levels. This will be because of declining production, technology advancements and a focus on the environment’ (St. Meld. Nr. 34 (2006-2007): 96).

In 2006-2007, Norwegian production of oil and gas products were at an all-time high, with aggregated emissions from more than 50 fields in production. The majority of these fields had been in production for a longer period, and moving into their more mature phase, the production and emissions were estimated to decline according to the report (ibid.: 97). From 2008, it is also noted that the petroleum sector would become included in the CO₂ quota emission system, and the instalment would have to buy all quotas on this market. Here they postulate that this system will contribute to companies choosing to obtain quotas through those projects based mechanisms and this contribute to a competency and technology transmission to developing countries (ibid.). These cross-sectoral measures, which have been imposed on the Norwegian

petroleum sector, are extensively evaluated in the report, as well as their contribution to generating emission reductions:

‘The petroleum industry is covered by several cross-sectoral measures such as the CO₂ tax, NO_x tax, and a flaring prohibition. From 2008, the sector will also be covered by the climate quota law. The current CO₂ tax constitutes a fee of 300NOK per ton for diesel and 342NOK per ton of emitted gas’ (St. Meld. Nr. 34 (2006-2007): 97).

However, besides these general and sectoral measures, which are founded on cost-effective principles for climate policy implementation, there are few concrete measures proposed for the sector, except for a brief discussion of the electrification of the shelf:

‘The government will work for a continued increase in resource utilisation on the Norwegian continental shelf, among other things through increased recovery, supplementary development and new projects. The government will continue to work for the electrification of the Norwegian continental shelf’ (St. Meld. Nr. 34 (2006-2007): 68).

The report also proposes two measures that are more general in nature. The first is to intensify work on emission-free power and researching offshore winds. Based on technical, economic and supply conditions, power from land/emission-free power to offshore or landfills should be assessed with new developments and major development projects. Second, the Norwegian Petroleum Directorate, Norway’s Water Resources and Energy Directorate and the Norwegian Pollution Control Authority was supposed to provide an updated analysis of the issue of power from land/emission-free power to petroleum activities by 31 December 2007 (ibid.: 67).

Since the report from the Low-Emission Committee, NOU 2006:18, served as a recommendation for the Stoltenberg II report, it does evaluate those 15 measures which were proposed in the initial report:

‘The committee only proposed one measure for the petroleum sector: electrification of the shelf. Since the largest emissions from petroleum activity stems from gas turbines generating electric or mechanical energy for, among other things, the operations of the instalments, getting electrical power from land may be a possible measure for reducing CO₂ emissions on the shelf’ (St. Meld. Nr. 34 (2006-2007): 102).

There is some concern regarding the energy balance, and the challenge of electrification is then linked to the accessibility of energy regionally and nationally. Additionally, for mature fields entering their final production period, it is held that to retrofit energy provisions from land would be too costly, and this measure should then mainly be considered for new projects, were the costs would be substantially lower, especially on fields estimated at having a longer life-span (ibid.: 103-6).

5.3.4 Meld. St. 21 (2011-2012): Further Electrification and General Measures

St. Meld. 21 (2011-2012) establishes the need for stronger measures towards the petroleum sector and stronger incentives for land-based power utilisation in the petroleum fields. Electrification of the Norwegian continental shelf is presented as a measure which the government perceives as functional:

‘The government’s goal is to increase the use of land-based power. This assumes that, at the same time, there is insurance of the development of new sufficient power network, so that there are not regional imbalances at the time of development’ (Meld. St. 21 (2011-2012): 113).

In the 2011 National Budget, updated projections for emissions to air were presented. GHG emissions were estimated to increase to 57,5 million tonnes in 2020, and then to decrease to 53 million tonnes in 2030. Since the 2011 National Budget, the estimates for the petroleum industry were downgraded for 2020 and upgraded for 2030, and, some method alterations were made for the estimates of waste burning (ibid.: 34). Additionally, it is stated that normalisation of the growth in Norwegian and international economy and rising emissions from the petroleum sector will contribute substantially to increasing emissions until 2020 (ibid. 35).

An important measure for the petroleum sector, besides those general sectoral measures of quotas and taxes, is held to be electrification of the shelf: ‘Land-based power is considered for all new development and larger restructuring of existing fields on the continental shelf, and has contributed to more fields deciding to cover energy necessities by land-based energy’ (ibid.: 88). At the time of the report, the fields of Troll A, Ormen Lange, Valhall, Snøhvit and Gjøa were provided with power from land from the grids of Kårstø, Kollsnes, Tjelbergodden and Nyhamna. The Goliat-field, which was under construction at the time, was estimated to be provided with land-based energy as well from its start-up in 2013 (ibid.: 15). To increase the

use of land-based electric power further, the report presents seven suggestions which the government find necessary for intensification in this regard:

1. Increase CO₂ tax by 200NOK per ton of CO₂ for petroleum activities. If the quota price increases over time, it provides basis for reducing the CO₂ tax so that the total carbon price remains at about the same level.
2. Develop a larger analysis and strategy for power from land as an energy solution through coordinated development of geographic proximity fields.
3. Require that the companies, prior to draft selection, inform the Norwegian Petroleum Directorate of those options being investigated, so that the concept committee does not require or otherwise reduce the likelihood of a solution which draws on land-based power.
4. Require that companies always assess power from land as an energy solution for new fields and for major rebuilding of existing fields, including assessing their relevant lifespan.
5. Ensure that the operator of new field developments in the petroleum sector at an early stage applied for a connection to the network cases where power from land is relevant.
6. Ask Statnett for future power consumption, including larger and specific increases in power consumption in the petroleum sector, if this is economically profitable.
7. Follow up on the ongoing investigations and aim to provide the southern part of the Utsirahøgden with power from land

(Meld. St. 21 (2011-2012): 113).

Emissions from the petroleum sector are here forecasted to be higher than what was previously estimated in the foregoing Report on Climate Policy:

‘Emissions from the petroleum sector are estimated to increase from 13,8 million tonnes CO₂ equivalents in 2012 to 14,9 million tonnes in 2020, given the estimates projected for the shelf and a continuation of the current measure utilisation. The estimates for 2020 are upgraded with roughly 3 million tonnes based on the Norwegian Pollution Control Authority’s assessment analysis of 2007. Emissions from the petroleum sector are expected to reach its peak in 2020, and then decrease. Developments on the Norwegian continental shelf are progressing towards more mature and distanced fields for gas transportation’ (ibid: 91).

The petroleum sector is here noted to be documented to have the most effect on the CO₂ tax. In Norway’s fifth national report to the UN Climate Convention, it was estimated that 2010 emission were reduced by 5 million tonnes of CO₂ equivalents in the sector compared to what they would be without the CO₂ tax on offshore production (ibid.).

In 2008, Norway became part of the EU ETS, which meant that the petroleum sector became subject to the quota system. The sector also must pay an additional CO₂ tax, which the government perceives as providing sufficient incentives for emission reduction to be maintained at a higher level than what it otherwise would have been through only the implication of the quota system. Also, the general ban on gas flaring is pointed out as a function which further emphasises a comprehensive regulative framework for the petroleum sector, and further tightens the constituted impact of the sector. It is also noted that a further normalisation of the growth in Norwegian and international economy, in combination with rising emissions from the petroleum sector, will contribute to higher emissions in the years leading to 2020, which is a matter of concern (ibid.: 36).

In effect, the report mostly emphasises the petroleum sector as an emission intensive sector, which must be subjected to measures for GHG emission reduction. The measures which are being recommended, are a continuous effort of providing incentives through the maintenance of those general means provided by taxation and quota pricing, as well as the more concrete measure related to electrification of the shelf.

5.4 Category 3: Consideration of International Cooperation and Agreements

Based on the assumption that those measures proposed based on cost-effective principles necessarily would entail a strong emphasis on securing international agreements which can obligate other countries to partake in those costs associated with emission reductions, this category was then introduced. As have been evident from reviewing those former categories, it appears that several of those documents do not emphasise direct or sector specific measures to a strong degree, and thus, by including a category which presents the main suggested measure for reduction, namely through international frameworks and flexible mechanisms, it may be more productive to assess theoretical influential constraints on climate policy.

5.4.1 NOU 2006: 18 – Focusing on National Policy

Initially, it is held that the main focus of the committee are those climate gases which are regulated through the framework of the Kyoto Protocol under the UNFCCC¹⁴. Included among

¹⁴ United Nations Framework Convention on Climate Change

these are CO₂, as the main gas for reduction, followed by methane (CH₄), nitrous oxide (N₂O) and a number of less commonly emitted gases. Additionally, concerning those objectives established in the protocol, it is held that:

‘When emissions shall be reduced by between 50 and 80 percent, we measure this level according to the level provided for Norwegian GHG emissions in the Kyoto Protocol for the period of 2008-2012. This level, set at 1 percent higher than national emissions in 1990, represents 50,3 MtCO₂-equiv. per year’ (NOU 2006:18: 15).

The Kyoto Protocol, which was ratified in 1997 and signed by nearly all industrialised countries (except the US and Australia), established rules and limitations for emissions of certain greenhouse gases. The protocol serves to regulate these industrialised countries’ emissions from their own territory for the period 2008-2012, but also introduced three mechanisms which the involved states can utilise to reduce emissions without having to cut them domestically (see section 2.2.1-2.2.3). In summary, these mechanisms include one where a country with a discharge obligation can invest in emission-reducing measures in another industrialised country, and get credited with the emission reduction achieved. This type of measure is the Joint Implementation (JI) mechanism. Alternatively, a country may purchase quotas from another country with emission commitments through the Emission Trading System (ETS). Finally, the so-called Green Development Mechanism (GDM) opens for the ability of an industrialised country with emission commitments to, under certain conditions, evoke emission-reducing measures in a developing country without such obligations, and get credited with emission reductions (NOU 2006: 18: 23-24). Most importantly, the protocol was meant to regulate industrial countries’ emissions from domestic territory in the period 2008-2012. Table 6 illustrates the national quotas as they were established in the protocol.

Table 6: Industrialised countries' emission limitations in the Kyoto Protocol

Country	National quota compared to 1990 emissions levels (percentage)*
Bulgaria, Liechtenstein, Monaco, Romania, Switzerland, EU-25 minus Cyprus, Hungary, Malta and Poland	92
United States of America	93
Canada, Hungary, Japan and Poland	94
Croatia	95
New Zealand, Russia, Ukraine	100
Norway	101
Australia	108
Iceland	110

* Some countries constituting so-called economies in transition, i.e. previously communist countries, were given the opportunity to choose a different year of basis than 1990 because of the special situation they found themselves in around that time. EU-15 countries were given the opportunity to restructure the EU quota among themselves.

Source: NOU 2006: 18: 24, table modelled after Table 3.1 'Industrialised countries' emissions limitations in the Kyoto Protocol'.

At the time of the report, Norway's emissions were estimated at constituting 0,02% of global GHG emissions. Thus, the report deliberates on the necessity of Norway's reductions. Among many other countries also counting for a small fraction of the global GHG emissions seen from a global perspective, there has been an issue with the extent to which such countries should have to reduce emissions, as well as the problem of free-riders. The report concludes that if there is to be a global agreement on reductions of GHG emissions, rich countries such as Norway will necessarily have to participate. The United Nations Climate Convention holds that rich and industrialised countries must act and set examples for reductions, partially because they are responsible for the major part of emissions in a historical perspective (NOU 2006: 18: 29).

In an international context, Norway has been an adamant promoter of international mechanisms for emission trading schemes. In 1989, the Norwegian government at the Storting, stated a goal that Norway's CO₂ emissions levels should be stabilised at 1989 levels by the year 2000 (NOU 2006: 18: 31). To reach this goal, the CO₂ tax was introduced, which at the time of the Low-Emission Committee report covered roughly 70 percent of CO₂ emissions, and approximately 50 percent of all collective GHG emissions in Norway. During the 1990s, however, it became increasingly evident that the ambition of stabilising emissions on 1989 levels within 2000, would be all too demanding. Thus, Norway took charge internationally and advocated for the creation of flexible mechanisms for emission reduction (such as quota trading, Clean

Development Mechanism and Joint Implementation), as the state perceived these as tools for a cost-effective reduction of emissions (ibid.: 32). During the Kyoto process, Norway was part of the Umbrella Group, advocating strongly for the implementation of flexible mechanisms into the Kyoto Protocol. In the protocol, Norway committed to not increasing the annual emission level by more than 1 percent compared to 1990, during measuring period of the protocol (2008-2012) (ibid.).

Although it does consider the role of the Kyoto Protocol to some extent, as it is the task of the committee to assess the measures necessary to comply with the commitments set under it, the report does not focus excessively on the role of flexible mechanisms and cost-effectiveness. In its concluding remarks, the committee rather states that:

‘We have interpreted the committee’s mandate to mean that it is emissions from Norwegian territory which shall be reduced by approximately two-thirds from the ‘Kyoto-level’ by 2050. Based on this, measures for emission reductions abroad would not answer the task of the committee’. (NOU 2006:18: 93).

Furthermore, the committee states that the intention of including some assessment of international mechanisms, is to the extent that measures for emission reduction in Norway may lead to higher emissions abroad. For example, the proposed reallocation of metal production to foreign countries could lead to lower national emissions, while the global emission levels would not be affected by this (ibid.). Thus, involvement in flexible mechanisms for emission reduction is only a viable solution insofar as it is not a substitute, but an additionality for national reduction measures.

5.4.2 NOU 2009: 16 – The Kyoto Protocol and Flexible Mechanisms

In the Olsen-Committee’s report, the word ‘Kyoto’ is mentioned 68 times (including attachments), and is hence extensively discussed throughout. Many aspects regarding the Kyoto-Protocol are deliberated on, especially with concern as to how this regulative framework has implications for Norwegian policy-making:

‘In most cases, international agreements and EU regulative frameworks will affect Norwegian climate policy. When new regulations become part of Norwegian legislation, such as the EEA

agreement, our choices become limited. In such cases, it is important that the consequences be considered' (NOU 2009:16: 20).

The committee then proceeds to establish that it is the UNFCCC which serves as the basis for international cooperation concerning the objective of reducing GHG emissions, which the Kyoto Protocol then was negotiated because of.

As it is a report written in strict economic academic language, it does also include cost-effective terminology when discussing international agreements such as the Kyoto protocol. It holds that in the Kyoto agreement, the principle of cost-effectiveness has been attempted transferred to countries by granting a certain amount of emission rights to OECD countries and economies in transition. In accordance with cost-effectiveness, it is then up to those countries to manage their distribution of those rights. The remaining countries, such as developing countries that have ratified the Kyoto Protocol, have in principle unlimited emission rights, meaning they have no limitations as to how much they can emit (NOU 2009:16: 33). Additionally, there is some consideration made regarding Norway's commitments, and the objective of over-fulfilment that was established in the 2008 Agreement on Climate Policy. During the period 2008-2012, Norway was, along with the other Annex I countries in the Kyoto Protocol, obligated to cover the emission of GHG with an equivalent number of quotas. Norway was awarded an annual emission quantity which was on 1 percentage point higher than the emissions in 1990 (ibid.: 34). Also, as part of the protocol, Norway included a contribution from silviculture, which was limited to 1,5 million tonnes CO₂ per year, and thus, Norway's collective quota quantity in the Kyoto period was at 51,6 million tonnes on average annually.

The Olsen-Committee then proceed by stating because Norway's quotas under the Kyoto period was estimated at 5,7 million tonnes lower than the estimated GHG emissions, if the estimate for 2010 represented an average for the period, Norway would be short of 12,2 million tonnes of quotas annually. This was because of the Agreement on Climate Policy on the Storting, which established that the Kyoto commitments needed by over-fulfilled by 10 percent, meaning about 5 million tonnes and additionally 1,5 million tonnes annually by not using the assigned quotas because of forestation (ibid.: 34). Here, the committee recommends that this shortage be handled through attachment to the EU ETS, or governmental purchasing of quotas through the Kyoto mechanisms, such as Joint Implementation (JI) and the Clean Development Mechanism (CDM) (ibid.).

There is also a section which thoroughly discusses the more concrete implications of the Kyoto Protocol, and how countries can achieve emission reductions through the mechanisms which were introduced under this agreement. To sum these, there are four mechanisms which allow for countries with emission commitments to achieve reductions: 1) reducing their domestic emissions, 2) buy emission quotas of other countries with emission obligations, 3) take on project activities in other countries with emission obligations (JI), and 4) take on project activities in countries without emission obligations (CDM) (ibid.: 35). Additionally, it is pointed to the fact that the OECD countries and economies in transition, have the largest amount of emission per capita, while only accounting for 18 percent of the world's population. They are, however, responsible for 40 percent of the world's GHG emissions. A goal for Norway is therefore held to be a fulfilment of those contractual obligations under the Kyoto Protocol. Mentioned here, is also the supposed large efforts Norway has invested in developing countries: '...Norway has put down extensive efforts aimed at developing countries without quotas in the Kyoto period, especially through grants for international measures to deforestation' (NOU 2009:16: 89).

In its discussion of how to pursue objectives in international agreements, the report adhere to the cost-effective rationale:

'A natural starting point is that Norway must pursue its objectives in a cost-effective manner. This implies that obligations under the Kyoto agreement are fulfilled so that Norway's costs are as low as possible and corresponds to the target of overfilling and long-term goals' (NOU 2009:16: 89).

However, while focusing on a cost-effective approach to fulfilment of international commitments, the committee perceives it as problematic that such objectives may place too much focus on the measure, and not sufficiently account for the actual reductions achieved. In an ideal system, any measure that was approved as emission reducing under the Kyoto protocol, would also provide real GHG emission reductions, to which the committee is critical of at the present (ibid.).

The committee assumes that authorities desire to reach climate targets through actual emission reduction globally. It however finds it difficult to interpret the promise to over-fulfil the Kyoto

agreement commitment by 10 percent, and the strong international commitment to forestry, into a framework in which Norway is only interested in cost-effective follow-ups in that period (ibid.: 91). Also, it is critical as to how the CDM instrument will be utilised in a future climate agreement, and holds that it is not unlikely that the CDM will play a smaller role than in the current Kyoto period. Simultaneously, it presumes that the EU quota market will continue over time, as it also has an institutional structure that supports it. Regarding the CDM mechanism, the committee holds that:

‘There are several arguments for using CDM projects within the Kyoto period, and this committee will not discuss further how Norwegian quota imports should be composed. Over time, however, it seems unrealistic to realise comprehensive emission reductions within a project-based system. Still, quota purchases within the EU system must be expected to lead to real emission reductions in the EU with great certainty’ (NOU 2009:16: 93).

Moving on, the report goes into a lengthy discussion of those different levels of ambition which are present, and how Norway may fit into these. The lowest level of ambition, here referred to as (a), is to little or nothing, nor join an international agreement, such as the Kyoto Protocol, which is a level of ambition several countries have in practice today. This is then linked to economic theory:

‘This is a frequent starting point often applied in economic theory of coalition formation: It is regularly assumed that each country is doing exclusively what is best for the country itself, given what the other countries do. This provides the well-known free-passenger problem’ (NOU 2009:16: 134).

The free-passenger problem is an issue which often appears in discussions regarding international frameworks on climate policy:

‘For each country, it is better that everyone collaborates to reduce emission, than if nobody does, but it is even better for a single country that the other countries cooperate to reduce their emission and that the country itself does not assume any obligations’ (NOU 2009:16: 134).

Moving on from the lowest level of ambition, to the next, medium ambition (b), which depends on how good an international agreement is. Here, an ‘optimal’ international agreement is defined as one which is designed precisely so that if the countries which join it and adhere to it, while pursuing what is best for them, still results in an optimal solution. No matter how strict

the agreement is, it would still put a price on GHG emissions. If the agreement was one similar to the Kyoto Protocol, it would mean that countries were allocated quotas to trade with (ibid.). Then, the Olsen-Committee asks what implications the ambition level (b) would mean for the specific design of Norwegian policy on climate. Here, they hold that the answer would depend on the characteristics of the international agreement. If the agreement directly regulates the use of instruments in each country, Norwegian climate policy is directly established through the agreement. If the agreement is of the Kyoto design, the agreement would result in a quota price (ibid.: 135).

As Norway is then held to belong in this second level of ambition, the committee deliberates on why this is an appropriate approach for Norway in the current international context. They argue:

‘If we have a good international agreement, there is hardly any reason for Norway to have an ambition level beyond (b). However, today’s Kyoto agreement has many weaknesses: 1) it only covers approx. 1/3 of the world’s GHG emissions, 2) the agreement is short-term and gives no indication of what to expect after 2012, and 3) the CDM scheme has a number of weaknesses’ (NOU 2009:16: 135).

Given these faults, they hold that there is a significant public opinion in Norway that believes that an ambition level (b) is too passive. But the committee argues that at the same time, it is not clear what can be achieved with a higher ambition level (a). Regular arguments in favour of a more proactive climate policy, are listed as: ‘the model effect’, in which other countries may step up their climate policy goals to mirror those of Norway; an instrumental argument, in which technological development can be transferred to other countries, and finally; the moral argument, based on Norway’s wealth there is an obligation to do more than the Kyoto agreement commitments (ibid.: 135). Instead of following up on these arguments, the committee then focuses on the problem of how it is not cost-effective to have a climate agreement where many countries do not have any obligations at all (ibid.: 136). The issues related to this is summed up as such:

‘When only a limited number of countries join an agreement (like today’s Kyoto agreement), the issue of carbon leakage arises: measures for reductions in one country or group of countries, may lead to increased GHG emissions in other countries’ (NOU 2009:16: 137).

They hold that there are especially two reasons as to why this is feasible: emission reductions measures in one country will reduce the demand for fossil fuels (coal, oil and gas) in this country, which contributes to lower fossil fuel prices. The lower prices will then contribute to increased use of fossil fuels in countries without climate policy. The other mechanism is that emission reducing measures in one country will increase the cost of emission-intensive production sectors. This contributes to increased international prices for products from these sectors, and then makes it more profitable to produce such products in countries without climate policy (ibid.: 137).

5.4.3 St. Meld. Nr. 34 (2006-2007) – Focus on Further Cooperation

When evaluating the current international framework for climate and environmental cooperation, the report establishes this as being based on the United Nations Framework Convention on Climate Change (UNFCCC). This was adopted in May 1992, came into force on 21 March 1994, and was ratified by 189 countries. The Kyoto Protocol, the international agreement upon which the report makes its policy recommendation according to, was founded on this framework, and it is held that all future agreements should as well (St. Meld. Nr. 34 (2006-2007): 30). The Convention established an objective that concentrations of greenhouse gases in the atmosphere was necessary to stabilise at a level which could prevent dangerous, human-induced interference in the climate system.

When assessing measures for GHG emissions, the report takes basis in such achievement through the utilisation of those flexible mechanisms established under the Kyoto Protocol (elaborated on in sections 2.2.1-2.2.3). Here, they hold that if climate mitigation is to be conducted in a cost-effective manner, it will be crucial to further develop the international system for cooperation, so that descendant agreements can better provide frameworks for international climate mitigation. A decisive element in such an agreement would be that the industrial countries in addition to financing substantial reductions domestically, must finance substantial reductions in developing countries:

‘If the world community is to avoid the most serious implications of climate change, then rich countries must therefore also finance emission reductions in developing countries, through development of capacity and by utilising flexible mechanisms, such as CDM. If such emissions reductions as financed in a substantial manner, then it will lead to large income transfers to poorer countries’ (Meld. St. Nr. 34 (2006-2007): 33).

In 2006-2007, the countries covered by the Kyoto Protocol, and which had taken on obligation under the agreement, were responsible for approximately 30 percent of the global GHG emissions. However, this fraction was then in decline, as it is held that industrialised countries with emission obligations are steadily responsible for less emissions, while developing countries and economies in transition are becoming more pollutant accordingly as they are further industrialised (ibid.: 30).

As it is established in the protocol that the flexible mechanisms were implemented as a supplement for national measures, the government states its intention of utilising such measures, as they would constitute a cost-effective approach to GHG emission reductions. However, there are some aspects of the protocol, which are held to be problematic:

‘A weakness in the Kyoto Protocol is that it is not sufficiently ambitious, and does not cover pledges for enough countries. Emissions from international shipping and aviation are not covered by the quantitative commitments in the agreement. Developing countries have especially been adamant that the principle that the polluter pays should be included’ (Meld. St. Nr. 34 (2006-2007): 31).

The government’s objective for 2020 includes both emission reductions in Norway, including CO₂ capture in forestry, and Norway’s contribution through emission reductions in other countries. Additionally, one main aim which the government proclaims through the report, is to over-fulfil the commitments of the Kyoto Protocol:

‘The severity of the situation demands rapid emission reductions. Therefore, the government requests that Norway will assume a commitment to reduce greenhouse gas emissions by ten percentage points beyond its Kyoto commitments. This extra commitment will to a large extent be achieved through financing of measures in developing countries’ (Meld. St. Nr. 34 (2006-2007): 33).

Implied in this pledge there is a call for other industrialised countries to similarly over-fulfil their obligations, as the government perceives this as an initiative which can counteract the threat of some countries having been awarded quotas beyond their necessities, leading to the protocol not successfully reducing emissions (ibid.). The government here proposes a wide approach for their fulfilment of the stated objectives, through a combination of national

measures as well as utilisation of the Kyoto mechanisms, in the manner the protocol have intended them to be employed, where a substantial amount of emission reduction still happens nationally (ibid.).

In the report, there is much emphasis placed on the notion that Norway should commit to reducing emission in other countries. In the National Budget for 2007, means are allocated to the Ministry of Finance for purchasing of quotas through the Kyoto mechanisms.

‘The government proceeds so that the state will contribute to purchasing emission reductions in other countries through purchases of quotas from projects under the Green Development Mechanisms (CDM) and Joint Implementation (JI). The framework of the protocol leads to important additional effects beyond those strictly climate related. Measure for international GHG emissions, especially through the flexible mechanisms of the Kyoto Protocol, could contribute to transmission of technology and sustainable development’ (Meld. St. Nr. 34 (2006-2007): 39).

Finally, the main perception regarding international cooperation through the established framework of the Kyoto Protocol, is that it provides a solid foundation for further cooperation. Some elements are seen as especially important to further maintain, such as the differentiated emission commitments, inclusion of all greenhouse gases, and that it extends the use of flexible mechanisms such as quota trading and project based cooperation (ibid.).

5.4.4 Meld. St. 21 (2011-2012) – Need for Broader Agreements

Regarding international cooperation on emission reductions, and the Kyoto Protocol, the evaluation is mostly geared towards the functionality and need for a broader, legally binding internationally agreement which covers all countries:

‘The government wants Norway to be an advocate for an ambitious agreement with binding commitments for all countries. If the world is to succeed in its objective to reduce emissions according to the established two-degree target, an international price on carbon emissions must be set. This will require substantial and effective carbon markets in coming years’ (Meld. St. 21 (2011-2012): 8).

Norwegian climate policy, in line with the Agreement on Climate Policy, is aimed at securing the overarching objective of Norwegian over-fulfilment of the Kyoto Protocol by 10 percentage

points. Additionally, as a part of a global and ambitious climate agreement, where industrialised countries will commit to large emission reductions, Norway will then be willing to set aims of carbon neutrality by 2030 at the latest. This would entail that Norway would secure emission reductions equivalent of Norwegian emissions by 2030 (ibid.: 9).

The government also perceives the central framework for international cooperation to be the United Nations Framework Convention on Climate Change (UNFCCC), which was adopted in 1992, and ratified by 195 countries. The long-term ambitions of this framework, was to stabilise the concentration of GHG in the atmosphere at a level which would prevent negative and dangerous human-induced effects on the climate system (ibid.: 47). The UNFCCC is founded on international legal bindings, and commits participating actors to establish national climate strategies and implement measures for reduction and restriction of GHG emissions. However, the Norwegian government acknowledges that a weakness in this framework is that it does not entail fixed quantitative numbers for commitments (ibid.). The government thus finds that any future international agreements should provide set targets, and provide stable pricing for carbon:

‘In an international agreement commitments for emission reductions can be constructed independently of how the costs of those measures are being distributed. The debate regarding who should assume that burden, i.e. pay for the reductions, is not automatically connected to where those emission reductions will take place. The former is a question of income distribution, the latter of effectiveness. This decoupling is best secured through an establishment of a global quota system, for example modelled after the Kyoto Protocol’ Meld. St. 21 (2011-2012): 45).

The Kyoto Protocol, is here perceived to have both been advantageous in some aspects, while also entailing some inherent weaknesses. The positive aspects of the protocol can be summarised as:

‘One strength of the Kyoto Protocol is that it is internationally binding, and provides established quantitative emission commitments differentiated among each single part who is defined in attachment B of the protocol. The Kyoto Protocol also contains joint rules for how countries shall calculate, report and audit emissions, and shared guidelines for how countries should account for utilisation of flexible mechanisms’ (Meld. St. 21 (2011-2012): 48).

Among weaknesses offered regarding the protocol, one is that only 30 percent of global GHG emissions were under the first commitment period covered by either quotas or taxes. This is because only industrialised countries committed to reduce emissions, and also, the United States did not ratify the protocol. The aim of the Kyoto Protocol in its first commitment period was to achieve a collective reduction of emissions from industrialised countries at 5,2 percent, but based on these functionality flaws, it did not accomplish this objective (ibid.: 48-9). Also, there were a lack of coverage regarding some sectors of emissions in the protocol:

‘Additionally, emissions from international shipping and aviation is not included in the commitments, but will be followed up through the UN International Maritime Organisation (IMO) and the International Civil Aviation Organisation (ICAO) respectively’ (Meld. St. 21 (2011-2012): 49).

The last climate conference that took place before the report was published, was the UN Climate Conference in Durban, 2011. It is concluded that this summit did end with some collective positive results, mainly that the Kyoto Protocol would continue into a new commitment period after 2012, and the settlement to initiate a process of negotiations on a legally binding agreement which was set to include all countries, regardless of them being industrialises or developing. The report argues that the establishment of this Durban-platform, was historical for two reasons; 1) it was the first step towards removing the major division between developing and industrial countries regarding which countries an agreement should include, and; 2) it sent a strong signal about the target for a legally binding agreement which would be applicable to all countries (ibid.: 50). However, Norwegian authorities still regarded this results as less ambitious than what was desired:

‘Many countries, including Norway, desired a higher ambition level for emission reductions and that the new agreement should be implemented sooner. The Durban platform is, however, a decent starting point for releasing larger emission reductions and may contribute to higher ambitions also before 2020’ (ibid.: 50).

In assessment of Norway’s role in international negotiations concerning an international agreement on climate policy, it is argued that Norway shall assume the role as a leading actor, which provides an ability to find compromises for further development. This would be done through an increased level of cooperation between countries which are located far apart, and to

contribute to agreements among them. It is stated as important to continue to be active and provide new suggestions in the formal negotiations, as well as maintaining Norwegian interest along the way:

‘Norway has, in the negotiation process, been especially committed to prioritising some areas where Norwegian interest are affected, or in which Norway can play an important role based on experience and competency. Norway has, in the international climate work priorities the topics of financing climate measures, flexible mechanisms and development of global quota markets’ (Meld. St. 21 (2011-2012): 67).

In conclusion, the Norwegian government states its motivations in this report to be a driving force for ambitious international agreements with binding obligations for all countries. The report states the necessity for an extensive and efficient carbon market in the years to come, which would cover a maximum of the global CO₂ emissions by a carbon price. Carbon pricing is therefore argued to be the most important instrument in the work against climate change, and thus, the government will put much effort into further develop the international carbon markets (Meld. St. 21 (2011-2012): 7).

5.5 Consideration and Summary of Data

In this section, I will summarise the main conclusions of each document. This will provide a better base when moving into the analysis and further theoretical discussion in the next chapter.

5.5.1 The Low-Emission Committee

What is evident from reviewing the Low-Emission Committee report, is especially how, in contradiction to more commonly published governmental reports, it established quite concrete and tangible recommendations for reduction of GHG emissions in Norway. Taking basis in its mandate, and how the committee interpreted this, it perceived it as especially important to maintain contact with both civil society and relevant professional communities during its work, which was upheld through open hearings and meetings with different Ministries (NOU 2006:18: 16). Additionally, it focused extensively on promoting solutions which could lead to actual reductions in Norwegian emissions (exemplified in those 15 proposed measures for GHG emission), while perceiving international mechanisms, such as quota trading schemes, as additional instruments. It also emphasises the possible positive effects associated with Norway taking a leading role and implementing policy for mitigating climate change at home. Since its

mandate was to elaborate on the possibility of Norway reducing its emissions by 50-80 percent over the coming 40-50 years, it claims that:

‘This would imply that the objective for Norway’s emission reduction is set, regardless of if the global development for example would transpire in such a way that few countries implement emission reduction. An objective of this character would imply that Norway’s role cannot exclusively be to promote a cost-effective climate policy on a global basis, but also must act as an advocate internationally for a pro-active climate policy’ (NOU 2006:18: 30).

The underlying message which can be deduced from this report, is that the committee establishes a certain level of moral obligation for Norway to act as a forerunner on climate policy, with the hope that other countries may follow by example:

‘This would make it possible for Norway to act as a role model in the international arena. It might be imaginable that if Norway for example chooses to develop and take on the costs of implementing and utilising such technologies as CO₂ capture and storage to a large extent, then this may provide the basis for other countries to do the same after Norwegian experiences provide certain information regarding the effects, costs etc. of implementing such technology’ (ibid.).

The committee does, however, recognise that when formulating climate policy based on a time perspective of 40-50 years, there may be drastic international changes which could serve to require major restructuring of such policies, and there must be solutions which are open to altering based on current international political developments. Therefore, measures should be implemented, and then revised again in coming years:

‘The committee argue that Norway should establish a formal objective to reduce GHG emissions from Norwegian territory by two-thirds by 2050 related to Norway’s commitment to the Kyoto Protocol, and revise this aim again in 2020’. (NOU 2006:18: 33).

5.5.2 The Olsen Committee

In its concluding remarks, the Olsen-Committee holds that regarding climate policy, as in all other fields of policy, authorities should utilise the most effective approach to reach their objectives. The main goal of climate policy is to reduce GHG emissions, and the most effective measures for achieving this is here argued to be a set price on greenhouse gases, in the form of

a tax or a quota price. Emission of greenhouse gases is a global environmental problem, and ideally those emissions should be regulated through international agreements that entails pricing of emissions internationally. Instead of implementing measures for domestic emission reduction, the Olsen Committee rather emphasises the imperativeness of establishing international pricing on emissions as the sole cost-effective solution to the issue:

‘If there are targets for further domestic emission reductions, the best policy would be to impose an equal price on emissions for all national emissions sources for greenhouse gases, equivalent to the level needed to reach the target set for domestic reductions. A price on emissions would stimulate the demand for more emission-friendly technologies and contribute to technology development in the field’ (NOU 2009:16: 155).

Technological development is also argued to appear as a by-product of implementation of emission pricing; if the emission price is higher than the optimal level for emission restrictions, this is then held to stimulate incentives for technological development in an international context. On a national level, there would however be other available measures for stimulating technological development and less emphasis on pricing of emissions, but this is argued to constitute a second-best solution, and is therefore not proposed as a recommended approach (ibid.: 156).

5.5.3 Basis for the Agreement on Climate Policy 2008

The government proposes a threefold strategy to complete those objectives suggested. First, a better international climate agreement is the foremost important element for climate policy. The second element is that Norway must contribute to emission reductions in foreign countries and growing economies, such as China and India. The third element is that the effort for reduction of emission in Norway must be intensified. These three elements are clearly evident when reviewing those evaluations which the report makes regarding the petroleum sector, the principle of cost-effectiveness and the Kyoto Protocol. The main policy of the government is thus that the commitments must be met through a combination of national measures and flexible mechanisms established under the Kyoto Protocol (Meld. St. Nr. 34 (2006-2007): 147).

The report states the difficulty of anticipating with certainty the effect of present and future measures for reduction; climate change and environmental degradation are issues that will have a broad variety of impacts, and prediction how these will affect Norwegian societies is

intangible. It is also not possible to achieve complete knowledge regarding Norwegian implementation of measures by 2020. Still, the government claims that its objective is that two-thirds of emission reductions shall occur domestically, until a new international agreement can constitute a revision of national objectives and measures. Cross-sectoral and general means should always be the principle upon which measures are instigated, accordingly.

5.5.4 Basis for 2012 Agreement on Climate Policy

In this report, the Norwegian government provides an extensive overview of those objectives which serves as foundation for Norwegian ambitions in climate policy. Among these, sustainable development and a cost-effective approach, are held as imperative for the continuation and development of such policy. Initially, the document provides an updated and revised strategy, which takes basis in the Agreement on Climate Policy of 2008. Here, principles of fair distribution, international solidarity, the precautionary principle and cost-effectiveness are held to still be central to formulation of climate policy in Norway (Meld. St. 21 (2011-2012): 84-5).

Especially accentuated is the necessity for new and better international climate agreements, which would cover all countries, both industrialised and developing, and make them subject to legally binding emission targets. The Kyoto Protocol, however partially flawed, is here held to have provided a decent starting point for future commitments (ibid.: 48). There is more emphasis placed on the evaluation of such international agreements than there is for the petroleum sector, for which there are established objectives, but mostly these are underscored by the acknowledgement of the industry's strain on Norwegian emission reductions (ibid.: 91). However, those objectives set under the first Norwegian climate agreement, are still held to be prevalent:

‘The climate objectives, the way they are enshrined in the Agreement on Climate Policy, are set. The government proposes a strengthening of utilisation of measures for the national climate policy. Our climate policy shall be among the most ambitious in the world. Our aim is that Norway towards the mid-century should become a low-emission society’ (Meld. St. 21 (2011-2012): 108).

6.0 Analysis and Discussion

The overarching purpose of this study has been to investigate explanatory factors regarding the formatting of Norwegian climate policy over a decade (2006-2016), and to what extent these are observable in policy formulation. In the previous chapter I have carefully reviewed four documents which are here perceived to have been incremental to the formatting of climate policy in Norway, as these have provided the foundation for both Agreements on Climate Policy reached in parliament in 2008 and 2012. In this chapter I will combine those empirical findings with the theoretical perspectives provided in the theory chapter, as well as a discussion of those results related to the initially stated research problem and underlying assumptions. First, I will present some of the main findings from all four documents and compare these; have the categories provided similar findings, or are there some substantial differences in those documents utilised?

Moving on, those findings will then be evaluated in light of the theoretical frameworks and perspectives; to what extent are those perspectives initially presented useful in assessing and explaining those occurrences which are present in policy documents? Based on the empirical evidence, I will further discuss the implications of those perspectives, related to developments in the policy field. For this task, the theory will help structure the interpretation. As it was stated in the method chapter, the chosen approach when applying theory for this project, is to utilise theories as complementary to one another, namely a multi-paradigm approach. Here, it is my contention that those occurrences which cannot be explained by one perspective, may then be explained through another. Thus, it may be possible to fully understand why and if the assumed factors have been influential on the formatting of Norwegian climate policy to a more fully extent.

6.1 Main Categorical Findings

In this section I will present and summarise the main findings from the empirical chapter and combine the findings of each similar category between the documents.

There are several factors that differentiates NOU 2006:18 and NOU 2009:16; first and foremost, it remains evident that these committees were made up of researchers residing in different fields and professions. The Low-Emission Committee report, constitutes a document which is fairly informally textually composed, with language which is not too professional. In

contrast, the Olsen-Committee report is highly academically written, with passages so professionally inclined, that it may appear intangible for non-economists to deduct from the text its exact purpose. Also, the Low-Emission Committee's policy recommendations, presented as a total of 15 concrete sector specific measures, can be easily differentiated in comparison to that of the Olsen-Committee, which for the most part make recommendations entailing the expansion of general means and cross-sectoral measures. Among those measures suggested in NOU2006:18 were recommendations such as the phasing-in of low and zero emission vehicles, the phasing-in of carbon neutral fuels, a focus on energy efficiency, and finally, transition to carbon neutral heating and methane collection from fertiliser and waste sites (NOU 2006:18: 12). Such measures are not in line with the dominant policy of the Olsen-Committee, who primarily envisaged indirect, market-oriented instruments.

These two documents are here perceived as representing two differentiated perspectives on climate policy. The former offering concrete suggestions, presupposing direct measures, and the latter proposing generic, indirect measures. Furthermore, according to Sørensen (2015: 155), these policy recommendations from the Low-Emission Committee and the Olsen-Committee had some effect on the substance of those two subsequent climate agreements settled in parliament. My findings correspond with this sentiment, as both St. Meld. Nr. 34 (2006-2007) and Meld. St. 21 (2011-2012), appears as somewhat unclear and unresolved compromises between concrete and generic measures.

6.1.1 Economic Theory Evidence in Climate Policy Recommendation

Regarding the presence of cost-effective principles in the documentation, there are some findings worth mentioning. Most notably, NOU 2006:16 stands out in comparison to the remaining documents. Wherein the latter three documents all extensively focus on the prevalence of cost-effectiveness as a guiding principle for all policy-making, especially regarding climate measures, the Low-Emission report does not deliberate significantly on this norm. Rather, the document provides more justifications as to why Norway *should* implement concrete policy measures, despite the recognition that such measures necessarily will constitute a significant cost-factor. Finding categorical content from this document related to cost-effectiveness was therefore problematic, as most assessments related to costs were not based on how to minimise these, but rather stating the fact that restructuring Norway into a low-emission society will necessarily be a costly procedure: '...all measures for reduction of GHG emissions will have a substantial cost-factor' (NOU 2006:18: 103).

Thus, the discussion is then more focused on justifying the implementation of costly measures, and arguing that many of the proposed measures can indeed be implemented without being impossibly expensive. However, this presupposes that the authorities start working on emission reductions immediately. Additionally, costs are here perceived as less important than the overarching objective of mitigating climate change, since the global threat the world faces in terms of continued large GHG emissions is so serious that it outweighs such concerns, to some extent. There are also moral obligations tied to the discussion of cost; Norway can, and should, act as a ‘role model’, especially considering the level of wealth which resides in Norway, and the fact that it originates from activity in exactly such sectors which are responsible for the most degradation of the environment (*ibid.*: 111).

Those three remaining documents, NOU 2009:16, St. Meld. Nr 34 (2006-2007) and St. Meld. 21 (2011-2012), substantially differentiate in this regard. NOU 2009:16 provides an extensive deliberation of the importance of cost-effectiveness as a main principle for climate policy. Here, collective benefits, meaning mainly those non-renewable resources present in nature, should be implemented into market functionalities, placing a cap on maximum emissions. They hold that through fixed market functionalities, emissions can be stabilised, however, there are some central preconditions which need to be evaluated for optimisation; a consideration of pricing for GHG emissions, deliberations of implementation on sectors and evaluations of uncertainties related to future quota pricing (St. Meld. 21 (2011-2012): 88). Additionally, reducing national emissions through sector-specific means, is held to have a limited effect on global emissions as long as Norway is bound by commitments internationally, and thus, the development of international mechanisms should instead be the focus when aiming for cost-effective reductions.

Both documents upon which the Norwegian Agreements on Climate Policy were based, coincides to a great extent with the Olsen-Committee’s recommendations in their report regarding the principle of cost-effectiveness. Both reports establish general means and cross-sectoral economic measures to lead towards decentralised, cost-effective measures. Also, management-efficiency is provided as an additional principle, which resonates with the Olsen-Committee, in that only measures which with certainty leads to emission reductions should be implemented. However, the St. Meld. Nr. 34 (2006-2007), somewhat breaks from the Olsen-Committee, when it argues that the state should in some cases subsidise development and

testing of new technology, because generally little research and expansion of such technologies will transpire organically in the private sector. The government therefore perceives subsidising new technology in its initial stages as a positive reinforcement of future investments, however, it is then incremental that fixed carbon pricing and taxation mechanisms are functional, as these provide further incentives for private actors to partake in technology innovation.

6.1.2 The Petroleum Sector: Continuing activity indefinitely?

Overall, there are few concrete, sector-specific measures for the petroleum sector proposed in either of the four documents comprising the empirical material. Starting with NOU 2006:18, the Low-Emission Committee does suggest one measure, no. 13 of the total 15, which is directly related to the petroleum sector: 'Electrification of the shelf and an increased proportion of the facilities located at land' (NOU 2006:18: 12). This is held to possibly substantially reduce CO₂ emissions from the sector, provided land-based energy provisions come from zero emission energy sources. In contrast, the Olsen-Committee did not provide any such measure for the sector, and the extent to which the sector is evaluated in NOU 2009:16, is only when assessed related to measures such as the CO₂ tax and quota schemes. The recommendations made by the Low-Emission committee regarding electrification of the shelf, is only briefly cited by the Olsen-committee, however, not deliberated to any length, and there is otherwise little mention or consideration regarding providing land-based electricity for the Norwegian continental shelf.

Moving on to the first report on which the 2008 Agreement on Climate Policy was founded, the petroleum industry is not concretely established as a sector which should be subject to any nationally imposed or tangible measures. The petroleum industry would rather become subject to cross-sectoral and general measures, such as the CO₂ tax and quota trading schemes, which coincides with the citations made by the Olsen-Committee. Similar to the Low-Emission committee report, however, St. Meld. Nr. 34 (2006-2007) does establish that the petroleum sector is accountable for a large amount of Norwegian emissions, but emphasises that this is because Norway constitutes a special case wherein more than 40 percent of national energy consumption is derived from renewable energy sources. The petroleum sector is, nevertheless, held to inevitable move towards a decreasing extraction level, and that it will eventually disappear completely (St. Meld. Nr. 34 (2006-2007): 26). Some emphasis is also placed on stating the cleanliness of Norwegian petroleum activity, based on comparability to other countries such as Denmark and the United Kingdom (ibid.: 68). Additionally, as the only concrete measure proposed, besides those general measures such as CO₂ tax and quota trading,

the government briefly evaluates further electrification of the shelf (ibid.). Electrification of the shelf is also held to be based on those recommendations made by the Low-Emission committee.

The final report, Meld. St. 21 (2011-2012), establishes that there is a need for stronger measures being imposed on the petroleum sector and incentives for utilisation of land-based energy provisions for petroleum fields: ‘The government’s goal is to increase the use of land-based power’ (Meld. St. 21 (2011-2012): 113). Besides recommendations of further implementation of general sectoral measures, such as carbon pricing and taxes, electrification of the shelf is provided as a measure that should be considered for all new developments and larger restructuring of existing fields on the Norwegian continental shelf.

6.1.3 Considerations of International Agreements and Mechanisms

The Low-Emission Committee report does not focus extensively on the role of international cooperation, insofar as the flexible mechanisms provided in the Kyoto Protocol are not seen as a viable solution in accordance with its mandate. Since its interpretation is based on finding solutions as to how Norway can reduce domestic emissions by two-thirds by 2050, it does not interpret international mechanisms for reduction as answering the task of that mandate. Therefore, the inclusion and evaluation of international mechanisms is only interesting to the extent that reductions from Norwegian territory may contribute to higher emissions abroad. Additionally, emission reductions through flexible mechanisms is only a viable solution when assessed as an additionality for national emission reductions, not a substitution (NOU 2006:18: 93).

Again, the Low-Emission Committee report stands in contrast to those three remaining documents. The Olsen-Committee extensively evaluates international mechanisms, and the report is expressly positive regarding the development of an international quota system, such as the EU ETS. However, there is still some criticism directed towards the Kyoto Protocol based on the fact that there are a number of countries with no formal obligations under it, which leads to the issue of carbon leakages, in which measures for reduction in one country can lead to higher emissions in another.

The first report to the government, St. Meld. 34 (2006-2007: 36), initially states as one of the overarching objectives that Norway will sharpen its Kyoto commitments by 10 percentage points to 9 below 1990 levels. This is based on the contention that the Kyoto Protocol is not

perceived as sufficiently ambitious. The Olsen-Committee, however, in its evaluation of this target, finds it difficult to interpret this objective, as doing so within a truly cost-effective framework is perceived to be problematic. This may be based in the Olsen-Committee's apprehension regarding the CDM and project-based financing of emission reductions in developing countries, which the St. Meld. 34 (2006-2007) to a much greater extent elevates as a functional measure for emission reductions.

While also displaying a great amount of attention regarding international functionalities and the Kyoto Protocol, the latter of the two reports to the government, Meld. St. 21 (2011-2012), is more concerned with the necessity for a broader and legally binding international agreement covering all countries. In contrast to the Olsen-Committee, the rationale for this is not so much based on the issue of the free-rider problem, but rather held to be because climate change is such an imperative issue, that there needs to be drastic alterations in the international society. Thus, moral obligations to reduce emissions are more central in this document, and therefore, these recommendations can somewhat be differentiated from the Olsen-Committee, which does not base any of its recommendations on the notion that Norway should function as a 'role model' based on morality arguments.

6.2 Applying Perspectives for Consideration

In this section, I will compare the theoretical expectations derived from the theory chapter with the main findings in the empirical evidence. The purpose is then to reveal the level to which these theoretical frameworks and perspectives are explanatory when regarding the findings from the empirical data, and thus can provide clarifications for the research problem. In the empirical chapter, the content was divided into three categories which were considered to more transparently present the findings in accordance with the research problem and the assumptions made initially. However, after having reviewed the main findings, it has become evident that most policy formatted in accordance with cost-effective principles following traditional social economic theory, is based on proposals for more international cooperation and flexible mechanisms allowing emission reductions to transpire without cutting domestically. Therefore, in this section, when reviewing the explanatory strength of those two perspectives introduced, I will divide the empirical findings into two categories, combining cost-effectiveness and international considerations into one category. First, there will be a consideration of how well

Rational Choice Institutionalism (RCI) can explain the findings, followed by an equivalent discussion regarding an historical institutionalist (HI) approach.

As it was stated in the method chapter, the approach for this study will commence following an approach to theory where these can be perceived as complementary to one another; a multi-paradigm approach (Rones 1997). Here, it is my contention, that those occurrences which cannot be explained by one perspective, may then be explainable through the other. Initially, it made sense to link a rational choice approach to cost-effective terminology, since this approach to institutions has strong roots in disciplines of economics. By focusing on the intertwinement of cost-effectiveness in climate policy recommendation and the focus on international agreements for fulfilment of those recommendations, it is here expected that this symbiosis can be explained through a rational choice institutionalist approach. Regarding the functionality and activity of the petroleum sector, it was assumed that a historical institutionalist approach could be rewarding in explaining the way policy has carried implications for this sector. Thus, by combining these perspectives, it may be achievable to gather a more comprehensive image of those influential explanatory factors which have provided standards for the formatting of Norwegian climate policy.

6.2.1 Rational Choice Institutionalism

My expectations from this perspective were to find that there are institutional constraints which limit the behaviour of political actors in an international context. From this perspective, an interest-based, actor-centred approach is adopted, where self-interested individuals are perceived to act based on exogenously given preferences (Fioretos et al. 2016). The contention is here that by somewhat stretching this perspective, and operationalise actors to refer to countries' authorities, or political groups, it may provide understanding as to why international agreements on climate policy have been so persistent over the past decade and thus in policy recommendation. This can also be linked to notions of social economic theory, which have been illustrated to have close ties to the argument that international agreements are perceived as the main solution to achieving desirable climate policy, because they allow for mechanisms that let each country reduce emissions where they are least costly. It is then presumed that all actors will behave in accordance with egoistic behavioural characteristics, rationally acting to maximise their preferences.

Rational Choice Institutionalism is also held to tackle the issue of the commons; situations in which rational individual action produce collective irrationality (Peters 2005). From this contention, when countries attempt to maximise their revenues by utilisation of resources without being constrained, this would lead to depletion of the collective environmental resources, and resulting in less than ideal collective outcomes. Hence, by establishing collective institutional constraint, such as binding international commitments for emission reductions, which are constructed by political actors who all desire to construct a payoff matrix which provides sufficient incentives for all actors who comply, then that would be significant and explanatory through this perspective.

6.2.1.1 Explaining Petroleum Policy through a RCI perspective

From the main findings presented, it is evident that there are limited concrete policy suggestions made for the petroleum sector. Overall, the Low-Emission Committee report is the only document which emphasises a necessity to reduce GHG emissions domestically in Norway, as it perceived it to be its mandate to offer such measures. Mainly, they argue the electrification of the Norwegian continental shelf to be a necessary policy measure. In St. Meld. Nr. 34 (2006-2007) and Meld. St. 21 (2011-2012), this measure is somewhat assessed, however, more emphasised in the latter compared to the former. The Olsen-Committee, however, does not accentuate this measure to any considerable extent, and mainly proposes general and cross-sectoral measures, in which the petroleum sector would be included. Based on the fact that the Olsen-Committee was mainly comprised of social economists and published on the behalf of the Ministry of Finance, this finding was somewhat in accordance with initial expectations.

According to Torfing (2006), a RCI perspective would mainly focus on institutional constraints limiting the actions of actors. From this, it would then be considered that such institutional constraints are conceptualised as policy which limits the activity of the petroleum industry. This model for interpretation assumes that politicians will manoeuvre to maximise their personal utilities, while the available options will be inherently constrained as a result of them having to operate within rules set by one or several institutions (Peters 2005). In assessment of climate policy and whether the petroleum sector has been allowed to function within an institutional framework which places limited constraints on it, this may be a functional framework for analysis and explanation. As seen in the documentation, there is a substantial amount of consideration regarding the sector, and all documents have sections which considers the fact that Norway constitutes a special case when regarding where Norwegian emissions are

produced. However, even as there is this recognition that the sector must inevitably have to be replaced by other renewable energy systems, concrete measures as to when and how this will be achievable are, to a great extent, absent.

Thus, from a RCI perspective, which takes basis in the assumption that institutions constrain the utility-maximising behaviour of actors, there are some evidence explaining how politicians have been able to manoeuvre policy. The petroleum sector is heavily taxed and covered by the EU ETS, which represents constraints on the actions of those actors who desires more activity. However, as it is a partially state-owned national corporation, it would not be unreasonable to suggest that it is in the interest of the Norwegian government to not place excessive constraints on petroleum industrial activity, and rather focus on emission reductions through other measures, as the economy is heavily dependent on this sector. Such measures are also supported by the contention that it is cheaper to reduce emissions through other measures, compared to the loss of revenue that reduced petroleum activity would lead to.

In three of the documents, excluding NOU 2006:18, the suggestions regarding the sector is that by including its activities into schemes for quota trading, combined with the already existing CO₂ tax, these measures will inevitably constitute enough incentives for such sectors to develop new technology limiting GHG emissions. Such arguments are based on ideas originating in classic market functionalities, and social economic ideas, in which only measures that lead to obtaining the largest profit for the least outlay should be implemented, and that businesses are rational actors and thus, market functions will always provide the best solutions. Through such general measures, economists would hold that if priced right, these would sufficiently incentivise actors. Therefore, the petroleum sector, assumed that businesses such as Statoil are led by rational utility-maximising actors, would develop according to the demands of the market.

The fundamental argument of a rational choice approach to institutions, is that utility maximisation will remain the primary motivation for individuals, and when individuals realise that their objectives can be most effectively achieved through formation of institutional frameworks (Peters 2005). According to such reasoning, Norway will therefore continue to partake in international institutional frameworks which places constraints on the petroleum industry. This is because, even though there are large amounts of resources left on the Norwegian continental shelf, most governments have realised the perils of climate change.

Norway therefore both wants to continue its activity in the petroleum industry, while simultaneously mitigate climate change. By entering institutional agreements which can secure international emission reductions, this can then allow the industry to continue while achieving emissions reductions. Hence, by perceiving the Norwegian state as a rational actor, the RCI perspective offers some explanatory strength when trying to understand why there are a limited number of sector specific proposed measures for reducing emissions from the petroleum sector in Norway.

6.2.1.2 Cost-Effective Principles and International Mechanisms in RCI Perspective

Keeping in mind the discussion from the last section, rational choice institutionalism may then be an equally adequate perspective for understanding why Norwegian authorities, as evident in policy recommendation and governmental documents, have been so adamant on advocating for comprehensive international agreements with commitments for as many countries as possible. From an RCI perspective, compliance stands as a pivotal principle, and can be conceptualised as games played between actors in attempting to ensure the compliance of other actors, while those bureaucratic actors commonly seek more leeway concerning their own actions. This does not suggest that legislators are assumed to be chasing inappropriate goals, but rather, merely seeking to ensure that their own versions of valuable public policy coincides with implementation in the present and future. Hence, Norwegian authorities have been adamant that Norway must be present in international negotiations regarding institutional frameworks for climate mitigation. This can be perceived as a way of dealing with the issue of the commons; by assuring that other countries adopt commitments for reducing emissions, rational individual behaviour can be limited so that it does not lead to collective irrationality, by placing institutional constraints on activity leading to depletion of collective resources.

The empirical data suggest that both Norwegian Agreements on Climate Policy, the framework for how Norway implements climate policy settled in 2008 and renewed in 2012, are heavily invested in the idea that international cooperation will be the main solution for the issues and challenges associated with climate change. Meld. St. 21 (2011-2012) especially emphasises the importance of constructing broader and legally binding agreements, covering a broader range of emissions and sectors, as well as including developing countries when establishing commitments for GHG emissions internationally. Those three mechanisms introduced through the Kyoto Protocol are therefore heavily accentuated in the latter three reports, held to provide

a basis for further development of international flexible mechanisms allowing countries to make reductions according to cost-effective principles.

The paradoxical case of the prisoners' dilemma, presented in section 3.4.2, have often been used in understandings of international climate negotiations. It takes basis in a realist conception of human nature, and expects the participants to 'betray' the others, while acting according to their self-interest, resulting in an outcome not ideal for either participants. As previously mentioned, Martiniussen (2013) argues that such arguments provided by game models such as the prisoners' dilemma have been actively used to legitimate Norway's exceeding GHG emissions, based on the logic that it would be illogical for Norway to take on larger commitments, because it could lead to the inaction of other countries. RCI can therefore be applied in this context, as it presumes the same egoistic behavioural characteristics found in other rational choice approaches to political behaviour. When actors then realise the threat of actions resulting in less than ideal outcomes, they then agree to form institutional arrangements which can be viable in the longer run (Peters 2005).

The empirical documents provide evidence that leads to the contention that a rational choice institutional approach may have a strong explanatory level when regarding Norwegian climate policy related to international cooperation and principles of cost-effectiveness. From those four documents, it is especially evident that the latter three showcase strong ambitions for Norway to implement policy according to cost-effective principles. From discussion in the theory chapter, it was held that the neoliberal era has made sure to ascend the instrument of 'cost-benefit analysis' onto formulation when assessing policy outcomes, and thus placing a predominant emphasis on monetary values.

From an economic perspective, unrestricted emissions of GHG causing climate change, are perceived as a market failure in the form of an externality, and economic approaches therefore hold that this effect must be internalised. This would require that all emissions must be priced at their social cost (Lininger 2015). Since RCI have strong roots in economic disciplines, it thus occurs as appropriate that such arguments can be explained through this perspective. Especially the Olsen-Committee report, mainly comprised by social economists, provides evidence of the prevalence of such ideas in formatting of policy. However, from an environmentalist perspective, it may seem problematic that the pursuit of efficiency routinely reduces or

eliminates all measures not considered immediately essential, as this approach solely focuses on those measures satisfying the fundamental necessity for ‘cost-effectiveness’.

6.2.2 Historical Institutionalism

From an historical institutionalist perspective, there is an idea that choices made regarding policy when an institution is formed, or when policy is initiated, will have a continuous and determining influence on future policy as well. The idea that when governments or organisations embark on a programme they tend to follow a persistent trajectory, is central in this understanding, based on the concept of ‘path dependency’. What I hoped to explain through the application of this perspective, is the reticent policy-decisions made regarding the petroleum sector. Based on an assumption that the petroleum sector has not been subject to any extensive forms of policies which have drastically altered the trajectory of this sector, historical institutionalism could then serve to explain exactly that. Also, according to Peters et al (2017: 612), it can be easier to explain under-reaction of governments to policy stimuli from an institutional perspective. In this regard, I find that since the assumption made here is that there has been an under-reaction to the activity of the petroleum sector, then an institutional perspective may serve to explain this and substantiate those assumptions made initially.

6.2.2.1 Explaining Under-Reaction through HI: The Petroleum Sector

Central to a historical institutional approach is the assumption that it is more enlightening to study human political interactions in the context of those role structures that are themselves human creations. In the context of this study, that would be to study how policy-making regarding the petroleum sector has been historically formed by those decisions made when the sector first became institutionalised, which are also, naturally, human creations. Hence, there was, in section 2.3.2, a description of Statoil’s historical development and how the organisation became structured as it has been. Additionally, this approach assumes that human political interactions should be studied the way life is lived, meaning, it is futile to only investigate snapshot of history if the intention is to understand how policy is formatted.

Since this project has focused on documentation from a decade, it did not tackle policy formulation in a historical long-term sense. However, by including sections deliberating on the structuring of the petroleum sector in its initial phases, it could then be suitable to see how these regulative frameworks and institutions have prevailed for several decades. Internationally,

Norway has often been commended for the responsible approach taken when petroleum was first discovered, and how the focus on long-term profitability in production has been central for the regulative framework imposed on the sector. This achievement was mainly carried out by implementing taxation policies, through the Petroleum Act and the oversight of resource management by government authorities.

In previous assessment of Statoil, some of the company's historical elements were revised. In 1971, Labour Party politician Finn Lied, accompanied by Arve Johnsen and Jens C. Hauge, took over the Ministry of Industry with the intention of creating a state-owned oil company for controlling the large oil reserves which had been discovered in Norwegian sea territory. The existing Hydro corporation was considered too difficult to form according to their preferences, and therefore Statoil was instead created (Ryggvik 2015). This symbiotic relationship between the Labour Party and Statoil would go on to be considerably criticised in coming decades. In 1981, in the midst of the 'right wave', the Conservative Party was elected and Kåre Willoch became Prime Minister. In contrast to the previous Labour-led government, Willoch was not equally positive to the developments of Statoil, and argued that the company had become all too powerful – a 'state within the state'. This initiated the era of Statoil's 'wing-clipping', including the establishment of the SDFI, which would become institutionalised in the state holding company Petoro.

From an HI perspective then, the way Statoil and the petroleum industry became institutionalised from its inception, has led to a strong and continuous relationship between the government and the company. According to Hadler (2015), it is also important to note, from a HI perspective, how in some cases the institutional structure can reinforce a disproportionate access to power among political actors. By evaluating those who partake in policy-decisions, it may then become evident if there are institutional frameworks that leads to some political ideas to be prevalent through delegation of power. Statoil has remained a central part of Norwegian corporate identity, and despite some regulative changes made during the Conservative era of the 1980s, the company still prevailed as a powerful corporation. When the government became more distanced from Statoil throughout history, which provided more leeway for the company, this has been argued to be based on the company being 'a child of the Labour Party' (Sæther 2017: 313). What may then be an explanatory factor when reviewing documentation from both Agreements on Climate Policy, is to note that these reports were both conducted under the auspices of the Labour Party.

In conclusion, a historical institutionalist perspective may explain why there is a lack of much concrete policy regarding the petroleum sector and Statoil in the provided documentation.

6.2.2.2 Cost-Effectiveness and International Cooperation in an HI Perspective

Attempting to explain the prevalence of social economic theory in relation to climate policy, may also partially be possible through a historical institutionalist perspective. Cost-effective principles have been a central element for Norwegian climate policy since the 1990s, when social economists began arguing that setting a price on emissions within a global framework limiting the total emissions, would make cost-effective climate policy possible. In an international context, Norway has advocated for such a strategy by focusing on measures in developing countries and by participating in the EU ETS (Røttereng 2014). These elements were especially present in the empirical documents, in which there was a prevalence of arguments associated to achieving cost-effectiveness through international participation. However, since those documents only spans over a certain period of time, one needs to assess the way social economists have worked throughout the years, if a HI approach is to provide any fruitful explanations.

Norway was among the first countries to adopt a climate policy strategy, and did so in 1989. This settlement held that by 2000, Norway's emissions would not surpass emission levels in 1989. During the 1990s, social economists increasingly called for cost-effective solutions, based on the contention that it would be illogical to implement national measures that did not align with cost-effective principles because that would imply that Norway would give up unnecessary welfare. By considering how such scholars were vocal during the 1990s, in the initial phases of climate policy formation, it is then possible to assume that these shaped institutions for climate mitigation in their starting phases. According to a HI perspective then, which focuses on how those choices made when policy is formed will have a continuous effect on determining future policy, this may then offer some explanatory strengths.

Accordingly, social economists were influential to such an extent that current policy is still formatted from those initial ideas, even though cost-effectiveness as a global premise has, in some regards, been showed to be problematic. In reality, the market only functions as a political tool is the necessary frameworks are present. On a national level, the argument of global cost-effectiveness has been utilised to reduce concrete measures for national, effective climate

policy. Internationally, the argument prerequisites conditions that are unrealistic within a unregulated framework. The idea of path-dependency can therefore be applied as an explanation as to why there have not been larger shifts in national policy, and why such principles are still adhered to.

6.3 Evaluation of Initial Assumptions and Research Problem

As I have presented in previous chapters, by reviewing chosen official documents, Norwegian climate policy has seemed to follow certain patterns in regard to the formatting of climate policy. Initially, the research problem came from the presupposition that Norwegian climate policy has not been especially ambitious when taking in to account that there are obvious reasons as to why Norway might feel a moral obligation to be a forerunner on climate mitigation both nationally as well as internationally. Rich, industrialised countries are mainly responsible for the current climate situation, and as there is a necessity for developing countries to expand their energy consumption and thus emissions, these countries have agreed to assume obligations to reduce emissions. By also providing evidence in the context chapter, which indicates that Norwegian emissions have not been reduced sufficiently in accordance with commitments made through the Kyoto Protocol, the contention here is that there are grounds for holding that Norwegian climate mitigation strategies have somewhat been inadequate. The focus was then on uncovering possible constraining influences.

First, I will assess those two assumptions presented in the introduction, and findings which either support or reject these. Moving on, and taking basis in those conclusions, the research problem will then be possible to provide some answers to, as it is with basis in that formulation that the assumptions were conceived. Since the assumptions regarding the findings of this project were meant to better comprehend and answer the research problem, this section will first review findings related to those.

6.3.1 Evaluation of Assumptions (A1) and (A2)

In the introduction, this thesis introduced two assumptions in section 1.3 that took basis in the phrasing of the research problem and an assessment of literature in the field. Now, I will assess these assumptions considering the evidence collected and analysed from the empirical data, and thus make some conclusions regarding the extent to which these are suitable in retrospect. The first assumption took basis in literature which held that social economic theory has been

formatting for formulation and implementation of Norwegian climate policy, and was articulated as:

A1: Traditional social economic theoretical conceptions have been influential for the formatting of Norwegian climate policy, and it is assumed that this will be apparent in policy-formulation.

The assumption was based on the various literature contending this, and the objective was therefore to evaluate the virtue of such claims by assessing policy from the stated decade. Also, it was important to assess in what direction economic theoretical conceptions would pull Norwegian policy; towards more, or less, responsibility and ambition.

First, it must be noted that there resides a wide consensus on the presence of cost-effectiveness and its role as a principle for Norwegian policy in the literature. Where the literature differentiates, however, is with respect to the validity of such approaches leading to sound and responsible climate policy. Since the main objective of this thesis is to uncover influential factors that may have a reticent effect on the level of ambition of Norwegian climate mitigation strategy, some contextual information was provided regarding the contemporary state of Norwegian emission levels and predictions. Norway is the 8th largest exporter of crude oil in the world, and per capita, emission levels are excessive. There is ample evidence that the domestic emissions have increased substantially over the past decade, while governments have persisted to claim the principle of cost-effectiveness and those mechanisms adhering to it, as the leading solution. By adhering to what Higgs (2014) refers to as the ‘cult of efficiency’, it is then evident that social economic theory only considers notions of social, moral, or environmental criteria if they can be counted and monetised. Also, related to notions of economic theory, as well as the rational choice institutionalism that entail game theoretical approaches to policy, there may be evidence that countries may act to minimise their input to abate GHG emissions above their non-cooperative level (Böhringer and Vogt 2003)

In those four documents revised, there were also generous evidence of rhetoric coinciding with traditional conceptions of cost evaluating approaches to climate mitigation. Especially NOU 2009:16, a document composed by social economists, was evidently formatted according to such ideas; it presented few concrete measure proposals, and adhered to arguments for general cross-sectoral measures focusing on the participation in international frameworks were

emission reduction could be achieved at the minimum cost. In contrast, NOU 2006:18 stands out compared to the three remaining documents, in that it displayed little evidence of social economic theoretical rhetoric, instead implying certain morality elements in its justification of associated costs for climate mitigating measures. Both reports to the parliament, St. Meld. Nr. 34 (2006-2007) and Meld. St. 21 (2011-2012), exhibit an adherence to cost-benefit analysis in their approach, with a somewhat differentiated level of attention given to domestic measures.

The first assumption (A1), is here contended to have been accurate. The literature corresponded with the assumption, and the objective of proving such presence in policy documents was also successful.

The second assumption (A2), took basis in the idea that Norway constitutes a quite paradoxical case, and that its economic performance is directly attributed to the activities of the petroleum sector, which lead to the assumption that this sector would inevitably be of importance to policy measures directed towards reducing emissions. The assumption was stated as:

A2: Norwegian climate policy has been formatted in such a way that it does not constitute a threat to the continuous activity of the petroleum sector.

This assumption was thus based on the historical role and the reliance on resources from the sector. Also, authors such as Moe (2015), Ihlen (2009) and Sæther provided a literary background for this claim. Here, it was held that there would be a lack of policy which substantially could be perceived to alter the trajectory of the sector, and that if there was policy measures steered towards the industry, these would not be concrete or sector-specific. As it has been presented in the findings, what is most noteworthy when assessing the categorical findings related to the petroleum sector, is the extent to which this sector is *not* evaluated in the chosen documents. While stating ambitious targets for emission reduction, it is simultaneously evident that these policy measures will mostly be geared towards providing international frameworks in which Norway can continue its activities in the field into the foreseeable future.

Regarding assumption A2, the findings also demonstrates that those measures currently imposed on the petroleum sector can be related to the first assumption. Currently, the petroleum sector is covered by the EU ETS, as well as the CO₂ tax, implemented in 1991, which have functioned as a measure for climate mitigation. Such measures are by nature categories as cost-

effective, as they place limited regulative constraints on specific sectors, but rather provides incentives for businesses to develop less pollutant technology.

The second assumption (A2) is therefore here perceived to have some validation, at least with basis in the documents provided. There is limited evidence in the empirical documentation for concrete measures directed at containing the activity in the petroleum sector, except NOU 2006:18, which proposes electrification of the Norwegian continental shelf as a measure. Such implementation would still not restrain the continuation of the petroleum industry, besides making further activity somewhat costlier.

6.3.2 Evaluation of Findings Related to the Research Problem

Having now presented some argumentation for the validity of the assumptions made introductory-wise, these will now be utilised in the final evaluation of the research problem and its cogency. The research problem for this project was presented in the introductory chapter, and was then formulated as:

What are possible influences constraining Norwegian climate policies over the past decade, and to what extent are such influences apparent in policy formulation?

Based on an exploration of relevant literature, possible constraining influences were conceptualised as assumptions (A1) and (A2). First, the presence of a strong tradition for social economic theoretical approach to climate policy were thus assumed to have had a reticent effect on mitigation strategies, as these are often grounded in neo-liberal, marked fundamentalist rationalities in which monetary values conflates all former concerns. Second, the historical role of the petroleum sector, and the dependency on revenues derived from such activity, was assumed to have been influential to the degree that there would not be a substantial presence of petroleum-specific policy in the documentation. Because this sector is responsible for a substantial amount of Norwegian emissions, it was then conceived of as constraining to omit this sector from concrete measures, thus relatable to the research problem.

By investigating these claims, it then was possible to examine the extent to which these influences were visible in policy recommendation and formulation. Both NOU documents served as evidence for recommendation for policy, while the reports to parliament were conceived as evidence of policy formulation. NOU 2006:18 provided concrete, tangible

measures, and a total of 13 sector-specific proposals. In contrast, NOU 2009:18, offered a consideration in which estimations of costs were a crucial component, and perceived international mechanisms as the ultimate solution for achieving climate policy that would have the least cost-effect. St. Meld. Nr. 34 (2006-2007) offered a threefold strategy, here perceived as a compromise of cost-effective approaches and national measures. Additionally, Meld. Nr. 21 (2011-2012) also did so, but included a more comprehensive focus on the imperativeness of establishing new and better international frameworks for cooperation.

With respect to the research problem, the contention of this project is that it has been possible to identify some factors that may have had a constraining influence on Norwegian climate policy. By arguing that cost-effective principles, as they are a focal element of traditional conceptions of policy-making, place more focus on the market as a mechanism that can solve the externality problem that is climate change, there may be grounds for the argument that this approach has not yielded optimal reductions in GHG emissions domestically in Norway. As long as international mechanisms, such as the CDM and the EU ETS, cannot provide emission reductions with certainty, the adherence to such principles do not provide a sufficient mitigation strategy and can thus be conceived as constraining on Norwegian efforts.

The petroleum sector was added as an assumed descriptive element based on how Norway's economic performance is directly attributed to the discovery of petroleum and the continuous activity in the field. It was initially perceived, with basis in secondary literary sources, as partially irrational for Norwegian authorities to implement policy that would to a substantial extent limit the furtherance of activity in this sector, and therefore, by not including such policy in the framework for Norwegian climate policy, this can be held to have had a reticent effect. On average, the petroleum sector has accounted for approximately 25 percent of Norwegian domestic emissions, and reductions in this sector could substantially limit emissions. Therefore, by omitting the sector from recommendations and measures – besides those general cross-sectoral measures – it is here argued that this has constituted a constraining effect on the formatting of Norwegian climate policy.

7.0 Conclusion and Final Remarks

The purpose of this study was to examine Norwegian climate policy, with intentions of clarifying some potentially influential factors regarding the formatting of Norwegian climate policy. Norway constitutes a special case, in that the economic performance is directly attributed to the business activity in the petroleum and gas sector, while also declaring its intentions of being an advocate for the development of binding international agreements for GHG emission reduction, and overall claiming the role as a forerunner on climate mitigation. Through the Kyoto Protocol, three flexible mechanisms were established that opened for the ability of industrialised countries to achieve emission reductions in accordance with their commitments through either investing in projects for emission reduction in developing countries or buying carbon offsets in international quota schemes, such as the EU ETS. Having been a focal advocate on the establishment of such measures, Norwegian climate policy documents clearly project the assurance of such mechanisms providing important means for reaching objectives regarding those commitments Norway have made internationally in a cost-effective manner.

By applying two different institutionalist perspectives, namely rational choice and historical, the idea was that these could provide some theoretical understanding as to why principles of cost-effectiveness, provided by general means and cross-sectoral measures, had been so dominant in Norwegian policy formulation. Also, the role of the petroleum sector was contended to be suitable for assessment in such perspectives. The findings were that both perspectives partially could explain and rationalise the intentions of Norwegian politicians and authorities. Rational choice institutionalism especially served to explain how Norway has committed to international cooperation, as this perspective holds that rational actors will seek institutional frameworks that can assure their preferences, if these can be attained better through such regulative institutional frameworks. As Norway continually desires to be an oil nation, it is rational to partake in institutional frameworks that allows for emission reductions to be conducted elsewhere.

The historical institutionalist perspective also provided some useful understanding regarding both the persistence of social economic theoretical formatting and the petroleum sector. According to Peters et al. (2017), institutionalist perspectives can be more useful when understanding under-reaction of governments to policy stimuli, which was suitable considering

the assumption made regarding the petroleum sector. By including some historical context from the constructing of those institutional regulative frameworks for the petroleum sector at its beginning, as well as the process surrounding the creation of Statoil, the notion of path dependency was held to possibly explain the under-reaction to the sector and why there have been no incremental limiting policy implementation imposed on the sector. Additionally, since the Norwegian state is the main share-holder in its national oil corporation, the rational choice perspective served to understand and evaluate the approach of seeking limitations on the global emissions, instead of limiting nations to providing emission reductions solely domestically, as this would be a threat to the continuation of the petroleum sector.

Finally, this thesis concludes that the empirical findings can be held to support the validity of those initially presented assumptions (A1) and (A2), as well as provide some interesting findings related to the research problem. However, because this project only took basis in four policy documents, within the span of seven years, there are no grounds for generalisation. The evidence is only useful insofar as they are regarded as empirical explanations with basis in theoretical frameworks. These documents, in combination with secondary sources can provide a more comprehensive image of how certain influences have been formatting to Norwegian climate policy.

7.1 Further Studies

As the climate of the planet has changes tremendously over the past few decades, the field of climate and environmental research is now more important than ever. There are a wide range of subfields, ranging from energy, human health and food security that are all subject to implications of the changing climate. As this thesis has served to provide understandings as to why Norway may not be perceived to not have played a particularly progressive part in implementing measures for emission reductions, there are numerous interesting elements that could serve as the basis for further assessment in other studies and research.

The Norwegian petroleum sector, though it has subject to numerous research analyses and assessments in past decades, would be interesting to study at a micro level. A proposition is then that by studying networks among those in leader positions at Statoil, and their ties to politicians in certain ministries, there might be some interesting grounds for research. Also, as it was outside the scope of this research, a further study of the claimed ‘iron triangle’, in which

the Ministry of Finance, Statistics Norway and the Department of Economics at University of Oslo was argued to constitute its own ideological field, could be an interesting examination of those theoretical ties linking these institutions.

Furthermore, in June 2017, the United States announced that it would withdraw from the Paris climate accord, as it would be seeking a better deal for the country and control over its own destiny. This decision came as a low point to many climate advocates, as it reversed the historical inclusion of the US in an international agreement of climate change mitigation. In the aftermath of this decision, it may therefore be interesting to evaluate Norwegian perspectives on further cooperation internationally, in newer agreements than the Kyoto Protocol.

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