

# Norwegian petroleum policy in a changing climate



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**Abstract:** The report provides an up-to-date account of the debates about how Norway can best handle its paradoxical position between oil dependence and climate leadership ambitions. Historically, political actors have sought to reconcile Norway’s goals of climate leadership and petroleum production by separating climate and petroleum policymaking into separate domains. Over the last ten years, however, this separation has increasingly been challenged, leading to a marked increase in political controversy around the future of the Norwegian oil and gas industry. The report gives an overview of the historical background for Norwegian petroleum and climate policy, and details more recent changes in public attitudes, political fault lines, and more specific policy changes currently under discussion. By focusing on the case of Norway, the report aims to inform broader debates about the relationship between fossil fuel extraction and climate policy, as this relationship is attracting increasing attention from climate policy analysts and policymakers internationally.

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# 1 Introduction

## 1.1 A Norwegian paradox?

Many commentators have highlighted the contradiction at the heart of Norway's approach to climate change: On the one hand, there exists a political consensus that Norway should take a leadership role in climate policy. Norway has been among the most active contributors to the international climate regime, including committing to emission reduction targets more ambitious than most industrialized countries and a high level of finance for climate action in developing countries (Lahn and Wilson Rowe 2015). On the other hand, there is also broad support for the goal of continuing to be a large petroleum producer and maintaining a strong oil and gas industry. Norway is among the World's largest exporters of oil and gas (EIA 2019), and the industry has for the last 20 years been responsible for almost half of national exports and more than ¼ of government revenue (NPD 2019).

The contradiction between climate leadership ambitions and oil and gas production has been described by various analysts as a "paradox" that places Norway in a position of "tension", "role-strain", or "cognitive dissonance" (cf. Boasson and Lahn 2017; e.g., Eckersley 2016; Norgaard 2011). Arguably, studying how Norway seeks to balance its paradoxical position is important in order to understand the development of Norwegian climate policy as well as petroleum policy. Furthermore, understanding 'the Norwegian paradox' may also be relevant beyond its specific national context. The goals of the Paris Agreement to keep global temperature rise well below 2°C and pursue efforts to limit it to 1.5°C confronts all fossil fuel-producing nations with new questions regarding their future development pathways. As more and more countries – including fossil fuel producers – adopt national contributions toward the Paris Agreement targets, they will increasingly find themselves facing the same paradox that has troubled Norwegian policymakers since the 1990s.

The purpose of this report is to provide an up-to-date account of the debates about how Norway can best handle its paradoxical position between oil dependence and climate leadership ambitions. It gives an overview of the historical background for Norwegian petroleum and climate policy, and details more recent changes in public attitudes, political fault lines, and more specific policy changes that are currently under discussion. By providing insight into the particular situation of Norway, the report aims to inform debates about the relationship between fossil fuel extraction and climate policy more broadly, as this relationship is attracting increasing attention from climate policy analysts as well as policymakers internationally (Erickson, Lazarus, and Piggot 2018; Lazarus and van Asselt 2018).

## 1.2 Reconnecting petroleum and climate policy

The history of Norwegian climate policy is to a large extent the history of how political actors have sought to reconcile the paradoxical goals of climate leadership and petroleum production. In the

1990s and 2000s, this was achieved by separating climate and petroleum policymaking into separate domains (Asdal 2014; Ryggvik and Kristoffersen 2015). The separation between petroleum and climate policy was enabled by the international climate regime, which allowed Norway to meet relatively ambitious climate targets through international carbon trading, and placed responsibility for greenhouse gas emissions on consumption of fossil fuels (the demand side) rather than production (the supply side). In this way, energy policy in general, and fossil fuels in particular, came to be placed outside of the direct scope of climate policymaking and related political controversies (Aykut and Castro 2017).

Over the last ten years, however, the separation between oil and climate policy has increasingly been challenged, to the extent that questions about the future of oil and gas production and climate policy are now intimately connected in political discourse. This partial reconnection of petroleum and climate policy has led to a marked increase in political controversy around the future of oil, with some activists and political parties arguing for a “managed decline” of the Norwegian oil and gas industry (see chapter 3 for further details). Again, the developments in Norway are closely intertwined with those seen internationally, where campaigns for divestment from fossil fuels and challenges to expanding oil and gas infrastructure have grown in number and political clout over the last decade (Cheon and Urpelainen 2018; Lenferna 2017; Princen, Manno, and Martin 2015).

Interestingly, a reconnection of oil and climate policy is to some extent also evident in the scholarly literature: Where economic and policy analysis previously tended to focus exclusively on demand-side measures, a number of recent contributions has pointed out the potential of supply-side climate policy – that is, restrictions on the production of fossil fuels (Collier and Venables 2015; Erickson et al. 2018; Fæhn et al. 2017; Green and Denniss 2018; Harstad 2012; Lazarus and van Asselt 2018). Another strand of analysis has focused on the economic risks associated with further development of fossil fuel production and infrastructure in a world moving towards decarbonisation (Caldecott 2017; McGlade and Ekins 2015; Mercure et al. 2018). In short: There seems to be a growing realization that the transition to a low-carbon society may require actively restricting the types of energy extraction and industries that we are transitioning away from, alongside efforts to build new and cleaner energy systems (cf. Geels 2014).



Fishing near *Kvitebjørn*, the North Sea. Photo: Henning Flusund/Norwegian Oil and Gas Association (CC BY-SA).



As the following chapters will show, however, the fact that fossil fuel extraction is increasingly contested and the future of oil is more critically questioned does not mean that policy change is imminent. Shifting the focus to the supply side does not necessarily increase the ambitions or political feasibility of climate policy (e.g. Aykut and Castro 2017). Nevertheless, the growing interest in questions about how to “end the fossil fuel era” (Princen et al. 2015) makes the “Norwegian paradox” increasingly relevant to explore: How are new and ambitious global climate goals understood and acted on in a country heavily dependent on oil and gas extraction? What happens when new calls for a “managed decline” of the fossil fuel industry meet an institutional apparatus built to maximize government revenue from the same industry? Understanding how these dilemmas are handled in a country striving to reconcile climate leadership ambitions with a strong oil industry may provide insights into the potential for – and barriers to – employing supply-side restrictions as part of policies to transition away from fossil fuels.

### **1.3 Overview of the report**

The report consists of three descriptive chapters, the first of which provides an account of the historical development of Norwegian petroleum policy and the system that has become known as “the Norwegian model” for petroleum resource management. It gives an overview of the main government actors (ministries and agencies) involved in petroleum and climate policy, and explains how the two policy fields came to be seen as largely separated from each other at an early stage. Chapter 3 focuses on more recent changes in public attitudes towards the oil and gas industry, and how the political debate has moved towards a reconnection between climate and petroleum as political issues. This chapter also presents the most important political actors in these debates, that is, political parties, NGOs and other interest groups. Chapter 4 provides a more detailed account of specific policy changes that have been proposed or adopted as a consequence of the recent increase in climate concern in the different areas of petroleum policy: licensing and exploration, taxation, and other aspects.

Following on from these mainly descriptive chapters, the concluding chapter provides a closing analysis of how policymakers have sought to handle the “Norwegian paradox” and whether further climate-induced policy changes are likely in the near future. Potential changes in the longer term will depend, among other things, on international developments in climate policy as well as oil and gas markets. Existing political tensions around the question of how Norway should reconcile its oil industry with its climate ambitions may however provide some insights into what paths policy development might take.



### Norwegian oil and gas production in a global context

Norway is the World's 15<sup>th</sup> largest producer of oil, and the 11<sup>th</sup> largest exporter (EIA 2019). Oil production has declined since 2000, despite a small and temporary recent rise, with natural gas increasing in share of total production (see Figure 2-1 in the next chapter). Remaining gas reserves are also somewhat larger than oil reserves (NPD 2019).

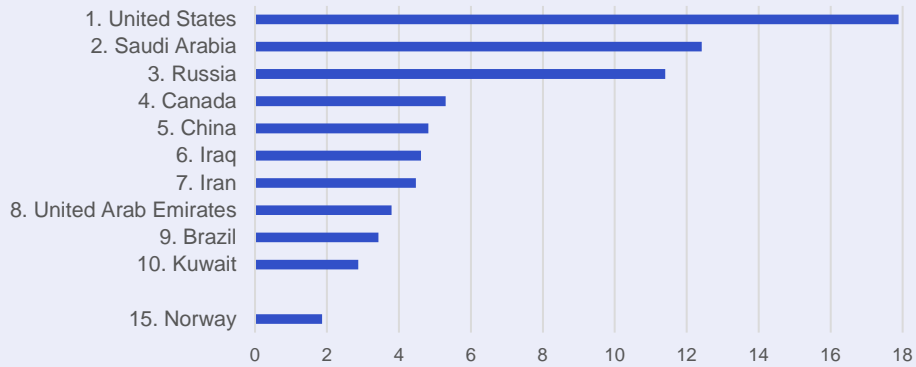


Figure 1-1 World's largest oil producers, 2018 (million barrels/day) (EIA 2019)

As a natural gas producer, Norway ranks as number seven globally, and is 3<sup>rd</sup> largest in terms of exports (EIA 2019). Most natural gas is exported by pipelines to other European countries, while a small portion is shipped as LNG (NPD 2019).

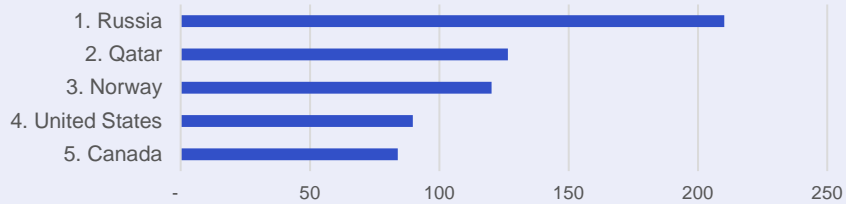


Figure 1-2 World's largest exporters of natural gas, 2017 (billion m3) (EIA 2019)

## 2 Norwegian petroleum policy: Historical overview

Norwegian petroleum policy has over time provided a high share of government revenue, industrial activity and public welfare. This has made the oil and gas industry a crucial part of the Norwegian economy and a strong political force. It has also had decisive influence on the development of Norway's climate policy, as the government embraced an approach of global cost-efficiency and carbon trading in order to separate climate policymaking from interests in the petroleum sector.

### 2.1 Emergence of the “Norwegian model”

Although Phillips applied for permission to drill for oil on the Norwegian Continental Shelf (NCS) already in 1962, the political processes leading to the establishment of what has become known as the “Norwegian Model” of petroleum resource management (Al-Kasim 2006) did not begin until nearly a decade later. During the 1960s petroleum policy was handled as part of general industrial policy, and did not generate much political interest (Olsen 1989:33–34). It was only after the major Ekofisk discovery was made in December 1969 – and further reinforced by the rising oil prices in the 1970s – that the management of Norway's oil resources became established as a major political issue (Olsen 1989; Sejersted 1999).

The discovery of petroleum resources on the NCS was met with optimism and a sense of opportunity, but also with scepticism and discussions about potential negative impacts of oil on Norwegian society. In the political debates of the early 1970s, oil extraction was widely seen as a “distinctive” (*egenartet*) activity (Olsen 1989:35) – a particular kind of resource that could be a blessing or a curse, depending on how it was managed (Ryggvik 2009:14). Two concerns in particular became the focus of political attention: First, that the benefits of oil extraction should be captured by Norway in the form of jobs, industrial development and economic activity, rather than being captured by a powerful international oil industry; and second, that the oil industry should not grow too fast so as to avoid economic overheating and wasteful resource use.

Ensuring national control with the budding oil industry became the consensus position in Norwegian politics during the 1970s, with support across the political spectrum for interventionist approaches towards the industry (Mjøset and Cappelen 2011:186; Aven and Innset 2018; Sejersted 1999). This led to the establishment of all the main elements of the “Norwegian model”: The operational responsibility for oil policy was divided between a ministry (now the Ministry for Petroleum and Energy, MPE), a directorate (The Norwegian Petroleum Directorate, NPD) and a vertically integrated, state-owned oil company (formerly Statoil, in 2018 renamed Equinor) (Al-Kasim 2006:242; Olsen 1989:99–103; Sejersted 1999:26).

Within this institutional set-up, the resource management policy was developed based on the Norwegian government’s experience from established institutional arrangements for managing natural resources and control the influx of foreign capital - in particular hydropower (Engen 2009:180; Sejersted 1999). A licensing system was established in which companies apply for a license to explore for oil and extract resources in a particular offshore area, and the government holds discretionary power to compose joint ventures of multiple companies for each awarded license. This allowed the government to ensure Norwegian participation of at least 50% in all licenses, either through Statoil or other forms of Norwegian ownership (Al-Kasim 2006; Lund 2014). (The licensing system is further described in section 4.1.)

In addition to the licensing system, a system of taxation was established to ensure that the government captured a significant part of the revenue from production. The system was initially based on a royalty model, and later a “Special Petroleum Tax” (SPT) levied on top of the general Corporate Income Tax (CIT). Since the 1980s the petroleum tax system has been moving towards a stated aim of “neutrality”, with the effect that the government carries a large share of the financial risk but also captures a large part of the profits in the sector (Lund 2014). The current industry tax rate of 78% (combining SPT and CIT) is thus mirrored by an effective 78% public contribution in all industry investments (see section 4.2 for further details).

This leads to the second concern prominent in the political debate of the 1970s, namely that a rapid phasing-in of considerable rents from the oil industry could damage the Norwegian economy. In the 1970s, this was approached through discussions on how to limit exploration and production activities so as to avoid overheating the economy and expanding the industry too quickly. The 1974 government white paper on “The role of petroleum activities in Norwegian society” established a goal of a “moderate pace” in oil extraction (Ryggvik and Kristoffersen 2015:253). The Ministry of Finance launched a figure of 90 million tonnes of oil equivalent (i.e. oil and gas) per year as an illustration of what a moderate pace would mean, and this became politically established as a limit for Norwegian production (Olsen 1989:86). The licensing rounds were seen as “the main mechanism for tempo regulation”, because once licenses were allocated “it would be difficult – indeed counterproductive – for the authorities to delay the development of the discoveries” (Al-Kasim 2006:190).

As the industry expanded during the 1980s, however, it became clear that it would become difficult to keep production capped at 90 million tonnes. In 1983, a government commission proposed replacing the goal of stable production with a goal of stable investment levels. It also introduced the idea of separating oil revenues from other government income through the establishment of a so-called “buffer fund” (Olsen 1989:114–15; Ryggvik and Kristoffersen 2015:257). Over the course of the 1980s, it was seen as increasingly difficult to control both production and investment levels, and the idea of establishing a fund for oil revenues gained traction (Mjøset and Cappelen 2011:226).

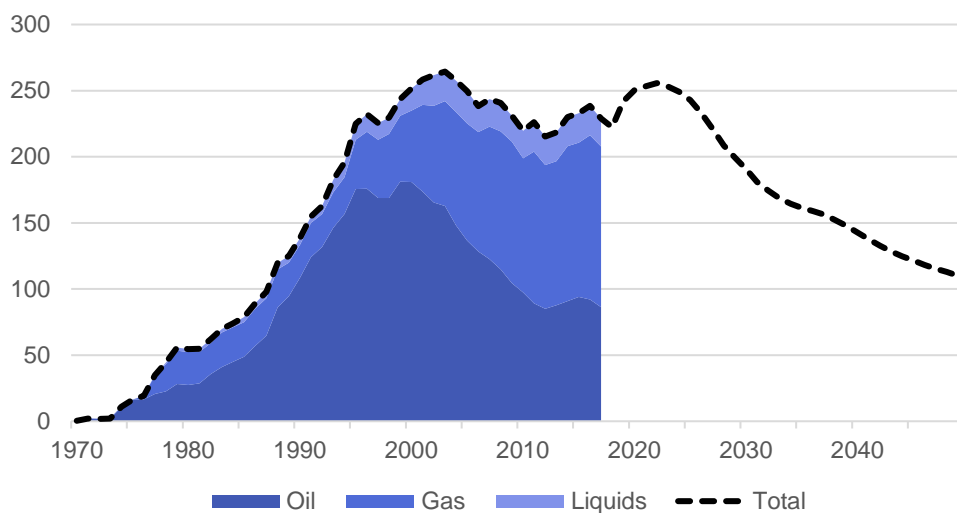


Figure 2-1 Norwegian oil and gas production, historical and projected (Mt oil eq.) (MOF 2019)

The “oil fund”, a sovereign wealth fund now officially known as the “Government Pension Fund - Global” (GPFG), was formally set up in 1990 to capture petroleum tax revenue. The fund experienced rapid growth from the mid-1990s onwards, increasing its value from around 120 billion NOK (14 billion USD) in 1998 to its current value of over 9,000 billion NOK (1 trillion USD) (NPD 2019). In 2001, the fund was followed by a “fiscal policy rule” that limits the amount of revenue from oil and gas production to be spent through the national budget to the expected real return of the fund’s assets (Mjøset and Cappelen 2011:231). This has been estimated to be about 4% of the fund’s total size, although the actual amount that has been included in national budgets over recent years have been somewhat lower (MOF 2018b).

The establishment of the oil fund, and later the fiscal policy rule, were seen to address the long-standing concerns about protecting the economy from overheating, hence removing the main reason for keeping a moderate pace in licensing (Al-Kasim 2006:191; Boasson 2005:22). This prepared the ground for a rapid expansion in licensing, exploration and investment over the course of the 1990s and 2000s. Until the oil price fall in 2013, oil sector investment grew rapidly, as did government revenues. This led to strong growth in the overall economy and in public sector spending, even within the fiscal policy rule. From 2000 to 2014, oil and gas production consistently provided between 25 and 35 per cent of total state revenue (NPD 2019).

As a result of policies that have arguably been successful in capturing a large share of oil revenue for the Norwegian public, therefore, oil production has become strongly linked to the provision of public services and widely seen as the main contributor to sustaining the Norwegian welfare state. As a recent PR campaign by the Norwegian Oil and Gas Association put it: “It is not just oil and gas being extracted from the bottom of the sea: It is health care, education, pensions, child care, research funding and jobs – to name just a few examples” (NOROG 2017).

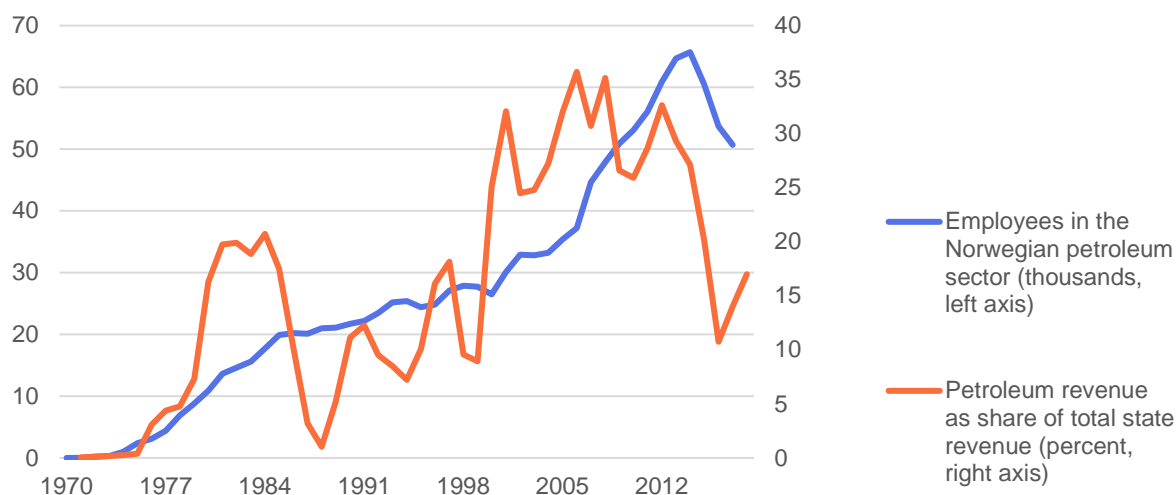


Figure 2-2 The economic importance of the petroleum industry: Employment and state revenue (NPD 2019)

## 2.2 Separating petroleum and climate policy

Concerns about the proper management of natural resources and the oil industry's effects on the environment were present in discussions about Norwegian oil policy since the beginning (Olsen 1989:52). The environmental concerns of the 1970s centred on the need to avoid wasteful use of natural resources, the harmful effects of a general increase in material consumption that might follow from large oil revenues, and the risks to local communities and industries such as fisheries in the event of oil spills (Ryggvik and Kristoffersen 2015). In the late 1980s, climate change entered the political agenda, linked, among other things to then-Prime Minister Gro Harlem Brundtland chairing the World Commission on Environment and Development. The growing environmental awareness led to a general "greening" of Norwegian politics, and a broad consensus that Norway should seek a leading role in addressing climate change (Lahn and Wilson Rowe 2015). The means through which such leadership was sought, however, was fundamentally shaped by concerns about how climate policy might impact on oil and gas production (Andersen 2017; Asdal 2014; Nilsen 2001; Sæther 2017).

Following the "greening" of politics in the late 1980s, there was strong support across the political spectrum to limit Norway's greenhouse gas emissions, and to pursue similar limits for other countries through an international agreement (Boasson and Lahn 2017). The Ministry of Finance, however, warned that this approach would entail a double risk for Norway: First, it could lead to costly emission reduction measures being imposed that would harm the Norwegian economy – for example, by limiting emissions from the oil and gas sector; and second, an international agreement to reduce emissions might reduce demand for oil, leading to lower prices and reduced value of Norwegian fossil fuel resources (Asdal 2014:2119).

The resistance from the Ministry of Finance as well as industry and other actors led to a radical shift in Norway's position on climate change during the first years of the 1990s and the negotiation of the UN Framework Convention on Climate Change (UNFCCC). The target to stabilize national emissions was abandoned, and Norway instead sided with the USA to push for a system of emissions trading and flexible commitments (Andresen and Butenschøn 2001). Such a system would, in the words of the Ministry of Petroleum and Energy, "enable Norway to increase our

emissions to a considerable extent in line with our comparative national production advantages” (quoted in Asdal 2014:2121).

When the Kyoto Protocol was adopted in 1997, it was largely aligned with the position of the US and Norway (Andresen and Butenschøn 2001). This allowed Norway to take on quantified emission reduction commitments while continuing the growth in oil production and associated emissions – a policy approach in line with leading Norwegian economists’ call for global cost-efficiency (Boasson and Lahn 2017; Sæther 2017). Crucially, the international climate regime also focused state responsibility on the demand side of fossil fuels – that is, on the consumption rather than production of oil – while leaving explicit mentions of fossil fuels out of the agreement altogether (Aykut and Castro 2017). The international climate regime of the 1990s thus served to reconcile Norway’s interests as a major oil and gas exporter with its ambition of acting as an international climate leader (Boasson and Lahn 2017). The effect was that climate policy largely became decoupled from oil policy and petroleum management in Norwegian political discourse: The structure of the international regime – itself in part shaped by Norway’s interests as an oil producer – now allowed for the two issues to be discussed in separation. This explains how, as Ryggvik and Kristoffersen (2015:258) point out, an increased prominence of climate change in national politics came to coincide with a massive increase in Norwegian oil investments and production during the 1990s and 2000s.

The decoupling of oil and climate policy is also reflected in the institutional division of labour in the Norwegian government. General petroleum policy that affect the volume and pace of exploration and production – such as licensing rounds – is placed in the Ministry of Petroleum and Energy (MPE), while the petroleum tax system and overall fiscal policy is placed in the Ministry of Finance (MOF). The Ministry of Environment (since 2013 the Ministry of Climate and Environment, MCE) and its subsidiary body, the Norwegian Environment Agency (NEA), have the overarching responsibility for climate policy within the framing of Norway’s international commitments. When it comes to oil exploration and extraction, the role of MCE and NEA is therefore limited to handling operational discharges to sea, oil spill prevention and response, and the ministry’s rather unclear role as a “driving force” (pådriver) to limit the industry’s production-related emissions (Boasson 2005:21). MCE and NEA have historically not contributed to problematizing or discussing the overall volume and pace of production (Sæther 2017). Such discussions – an important part of Norwegian political debate in the 1970s and early 1980s – therefore did not have any institutional voice in the 1990s and 2000s.

This is not to say that there have not been political controversies regarding Norwegian oil and climate policy over the last few decades. Discussions about allowing exploration and production in new offshore areas such as Skagerrak in the South or Lofoten and the Barents Sea in the North led to fierce opposition from fishing communities and environmental groups, as well as heated arguments among political parties (Andersen 2017; Kielland 2017; Ryggvik and Kristoffersen 2015; Sæther 2017). These conflicts were however mainly connected to concerns over the marine environment and fisheries, which led to the establishment of marine spatial planning procedures and to some ecologically sensitive areas being kept temporarily off limits for oil activity (Dale 2016; Olsen et al. 2016).

On the climate policy side, discussions were dominated by a conflict over whether to meet Norway’s emission reduction commitments “domestically” or “abroad”, i.e. through the flexible mechanisms of the Kyoto Protocol (Boasson and Lahn 2017; Hovden and Lindseth 2004). In line with the international climate regime’s focus on consumption rather than production of fossil fuels, the oil industry primarily figured in climate policy debates in two ways: First, in discussions about increasing the domestic use of natural gas for energy and industrial purposes; and second, in relation to its production-related emissions, which are part of Norway’s accounting under the UNFCCC.

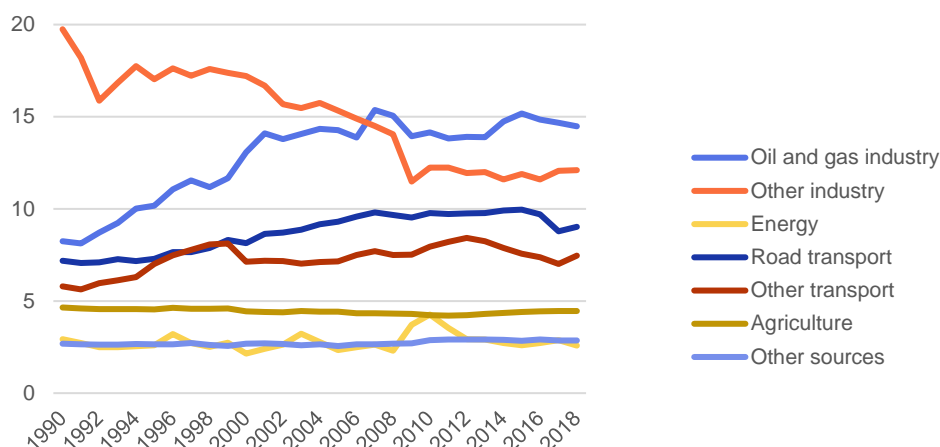


Figure 2-3 Norwegian greenhouse gas emissions by source (Mt CO<sub>2</sub> eq.) (Statistics Norway 2019)

The first question, on natural gas use, became particularly heated during the 1990s and early 2000s, as several proposals to utilize natural gas for power production were put forward. The plans drew fierce opposition from environmental NGOs, as gas-fired power plants would reduce the share of renewables and increase Norway's reliance on international carbon trading to meet its climate change commitments (Tjernshaugen 2011). Plans for Carbon Capture and Storage (CCS) to reduce emissions from gas-fired power generation were launched as a potential compromise. While such plans gained widespread support in principle, including among environmental NGOs, the plans never materialised as full-scale CCS was not mandated for new power plants. In 2000, the minority coalition government of Kjell Magne Bondevik resigned as it refused to accept the Parliamentary majority's decision to allow new gas-fired power plants without CCS requirements (Boasson and Lahn 2017; Tjernshaugen 2011).

The second question, on the oil industry's production-related emissions, became the subject of regulation from an early stage. A CO<sub>2</sub> tax on the industry was introduced in 1991, followed by a ban on flaring meant to reduce emissions as well as to ensure efficient use of natural gas resources (see section 4.4 for further details). The CO<sub>2</sub> tax resulted in efficiency improvements and a reduction in the carbon intensity of petroleum production. Strong growth in investments and overall production levels during the 1990s however resulted in a sharp rise in total oil industry emissions (Statistics Norway 2019). The increase in production-related emissions from the oil and gas industry was the main reason why Norway had to abandon its initial target to stabilize greenhouse gas emissions by 2000 (Boasson 2005:22), and why total Norwegian emissions have not been reduced since 1990 (see Figure 2-3). In 2018, total greenhouse gas emissions were 3.4% above 1990 levels (Statistics Norway 2019).

Summing up, while the 1990s and 2000s saw several policy measures addressing the oil industry's production-related emissions and high-profile political conflicts about Norway's domestic fossil fuel emissions, the climate effects of overall petroleum production levels and the export of oil and gas received scant attention (cf. Sæther 2017). The international climate regime and Norway's emphasis on a globally cost-efficient climate policy based on carbon trading enabled a decoupling of climate and petroleum policy discussions. As a consequence, attempts to link the level of Norwegian oil production to global climate change impacts could be written off as an impossible basis for serious conversation (Andersen 2017:399), and environmental NGOs challenging oil and



gas development primarily emphasised local environmental risks and domestic greenhouse gas emissions (Kielland 2017). Government institutions tasked with the management of oil and gas production focus on maximizing societal benefits such as employment and government revenue, while climate policy institutions have had very limited influence over the long-term development of the industry (Boasson 2005). Over the last ten years, however, this situation has begun to change in important respects. This is the topic of the next two chapters.

## Institutions in Norwegian petroleum and climate policy

### Ministry of Petroleum and Energy (MPE)

Responsible for overall petroleum policy, including licensing policy, field development etc. Also responsible for the government's 67% ownership share in Equinor and the SDFI (see below).

### Ministry of Finance (MOF)

Decides tax policy, including the Special Petroleum Tax and climate-related taxes. Responsible for the investment policy of the sovereign wealth fund, although day-to-day management is delegated to NBIM (see GPFG).

### Ministry of Climate and Environment (MCE)

Responsible for overall climate policy, with a mandate to act as a "driving force" vis-à-vis other ministries.

### Norwegian Environment Agency (NEA)

Agency under the MCE. Enforces pollution regulation, including regulating and issue permits for emissions to air and sea from the oil and gas industry.

### Norwegian Petroleum Directorate (NPD)

Agency under the MPE. Enforces regulation regarding oil and gas activity.

### Norwegian Government Pension Fund Global (GPFG)

Sovereign wealth fund, invests oil and gas revenue collected through taxation and government ownership in a globally diversified portfolio. Managed by the investment management arm of the Norwegian central bank, Norges Bank Investment Management (NBIM).

### State Direct Financial Interest (SDFI)

The government takes a direct ownership share in many licenses. This ownership, called the SDFI, is managed by the government-owned Petoro organisation.



## 3 Changes in attitudes and politics

The last decade has seen increasing disagreement about the future of Norway's oil and gas industry. Demands from NGOs and some political parties to phase out Norwegian oil production have been met with renewed efforts by industry actors and the political majority to legitimize continued oil and gas production in the context of ambitious global climate targets. Support for the industry remains strong in the population, but new narratives about economic risk and a "managed decline" has contributed to increasing problematization of new oil developments.

### 3.1 New narratives on climate and oil

Over the last ten years, the disconnect between climate and oil that marked Norwegian political discourse in the 1990s and 2000s has gradually given way to new narratives that reconnect the two issues. The emergence of these new narratives is closely connected to international developments in climate science and policy, which in turn have been appropriated by actors in Norwegian policy debates to support and develop their positions – whether to criticize or legitimize Norway's oil and gas production.

The Copenhagen climate summit in 2009, followed by the negotiations leading up to the Paris Agreement in 2015, placed climate change higher on the global political agenda. Over the course of these negotiations, two developments in particular had a decisive impact on Norwegian discussions about oil and climate: First, the establishment of the 2°C target in 2009/2010 – and later the Paris Agreement's objective of "pursuing efforts" to limit warming to 1.5°C – established a global benchmark for climate change mitigation policies. Second, an evolving scientific understanding of the cumulative emissions that would be permissible within the limits of these temperature goals manifested itself in a growing literature on the "carbon budget" (Allen et al. 2009; Meinshausen et al. 2009) and was later reflected in the IPCC's Fifth Assessment Report (IPCC 2014).

From the very beginning, the idea of a “carbon budget” of allowable global emissions was connected to the future of fossil fuels and the amount of coal, oil and gas that would have to be left in the ground in order to meet the 2°C target (McGlade and Ekins 2015; Meinshausen et al. 2009). The message was introduced to financial actors as a risk of a “stranded assets” in the fossil fuel industry and a “carbon bubble” in the financial system (cf. Caldecott 2017; Leaton 2011; Leaton et al. 2013; Mercure et al. 2018). It was further popularized by activist author Bill McKibben (2012) as the “terrifying new math” of climate change, and has led to calls for a “managed decline” of fossil fuel production (Muttitt 2016) across broad sections of the international environmental movement (see Lenferna 2017). More generally, as the idea of a finite amount of allowable emissions implies that human-caused carbon emissions would at some point have to stop (Matthews and Caldeira 2008), the concept of the carbon budget has strengthened the popular understanding that the long-term targets of the Paris Agreement implies “the end of fossil fuels” (Aykut and Castro 2017).

In Norway, environmental activists picked up the idea of a carbon budget and the framing of further oil and gas discoveries as potentially “unburnable”. The message was in part used to reframe existing struggles over the opening of new areas for oil and gas exploration, giving already highly politicized conflicts over oil in the Lofoten area or the Barents Sea a more explicit climate dimension. Over the last decade, environmental NGOs have moved from calling for specific limitations on oil and gas extraction (such as “petroleum-free areas” or no-go zones in ecologically sensitive areas) to calling for a “managed decline” of the industry as a whole (McKinnon, Muttitt, and Trout 2017). This has manifested itself in increasingly radical demands to change licensing and tax policy for the oil industry, as further described in chapter 4.

New global climate targets and carbon budgets have also been used to problematize Norwegian oil and gas production from a financial angle. New campaigns emerged to divest Norway’s sovereign wealth fund from fossil fuels, and the risk of stranded assets was highlighted in a number of NGO reports that called for reforming the petroleum tax system (e.g. Jortveit 2015, 2016). These arguments have centred on the large risk carried by the Norwegian government, as it allows most of the investments in exploration and field development to be deducted from oil and gas company taxes today, on the assumption of large future revenue streams. These actors point out that if future climate policy reduces the oil price and leaves existing reserves “unburnable” (McGlade and Ekins 2015), these revenue streams may not materialize, and the Norwegian public will carry a large share of the losses (Erickson and Down 2017).

In sum, these new narratives have had the effect not only of reconnecting oil and climate policy generally, but also of highlighting the global climate effects of Norwegian oil and gas exports. This entails a shift in focus from the industry’s production-related emissions in Norway to the much larger emissions associated with the consumption of exported oil and gas (see Figure 3-1). In this way, the main question raised by critics of the oil and gas industry is what place there is for Norwegian oil and gas in a future energy system in line with the goals of the Paris Agreement.

Interestingly, many of the actors justifying continued Norwegian oil and gas production also seek to put the industry’s climate impact in a similarly global context. The main industry body, the Norwegian Oil and Gas Association, frequently defends Norwegian petroleum production by pointing out that even in scenarios where emissions are reduced in line with a 1.5°C or 2°C target, global oil consumption will still be relatively high for several decades to come. It argues that this oil should be supplied at the lowest possible cost and with the lowest possible life-cycle greenhouse gas emissions, and that Norway is well placed to meet this demand (e.g., Schjøtt-Pedersen 2018). Industry actors often point to the role of Norwegian gas in phasing out coal in other European countries, and to the low emissions per barrel of oil produced on the NCS as evidence that Norwegian oil is better than the alternatives (see Gavenas, Rosendahl, and Skjerpen 2015a for a nuanced critique of this argument).

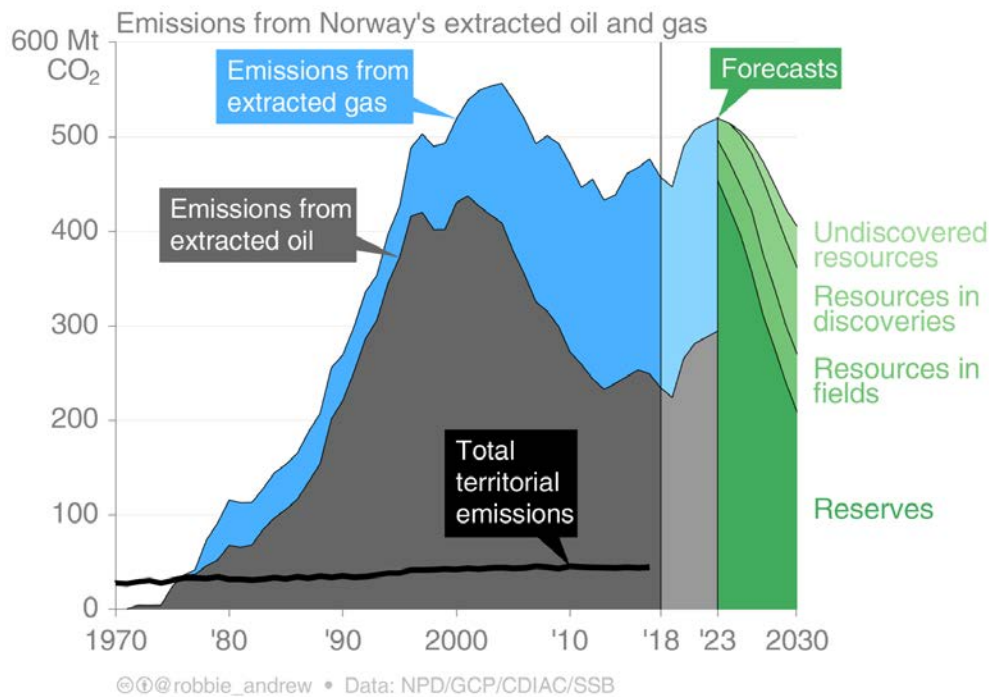


Figure 3-1 Emissions from extracted oil and gas compared to Norwegian territorial emissions.  
Figure by Robbie Andrew, CICERO.

The narrative of Norway as a supplier of cleaner oil and gas to meet global energy demand is illustrative of how the Norwegian oil and gas industry positions itself as environmentally responsible and responsive to public concerns about the future of oil and gas (Sæther 2017). The active role that the Norwegian oil industry has taken in supporting the 2°C target and showcasing its emission reduction efforts must be understood on the basis of the broad political support for the vision of Norway as a responsible member of the world community and a front-runner in climate policy, as described in chapter 2. A recent example is the rebranding of the state-controlled oil company Statoil, which changed name to Equinor in 2018 as part of a strategy to develop into a “broad energy company” that will be “competitive also in a low-carbon future” (Statoil 2018).

The most important way in which the industry has met critical questions about climate impacts, however, is by emphasizing its key contribution to the Norwegian economy. In particular, the importance of oil revenue for supporting the Norwegian welfare state is frequently highlighted by the Norwegian Oil and Gas Association, for example in their PR campaign during the 2017 parliamentary election: “It is not just oil and gas being extracted from the bottom of the sea: It is health care, education, pensions, child care, research funding and jobs – to name just a few examples” (NOROG 2017). The industry association taps into a widely shared understanding of the role of oil in Norwegian society when it posts pictures of offshore oil facilities on social media accompanied by the tag *#velferdsmaskinene* – literally “the welfare machines”.

### 3.2 Oil and climate in parliamentary politics

Both the long-standing association of oil and gas production with welfare, employment and economic benefits, and the new narratives regarding climate risk and global climate impacts are well represented among political parties in the *Storting*, the Norwegian parliament. Historically, the parties supporting a global approach to climate policy based on carbon trading have also been strong supporters of oil and gas development. The Labour party, backed by the unions representing oil industry workers, as well as the Conservative party and the Progress party on the right, have thus ensured stable and predictable policy conditions for the petroleum industry irrespective of changes in government (Sæther 2017). A group of smaller political parties, generally supportive of a tougher approach to domestic emission reductions, has been critical of further oil and gas development, in particular in the Arctic. This group includes the Socialist Left party as well as the centrist Liberal, Christian Democrat and Centre parties.

The tendency for oil and climate policy to be reconnected in public discourse over the last few years is acknowledged across the political spectrum. An indication of the extent to which this development presents a challenge to the established order in Norwegian politics was given by Prime Minister Erna Solberg (Conservative) when she lamented, during the Parliamentary election campaign in 2017, that “Somebody has taken the climate debate, and moved it away from climate, and over to becoming an oil debate” (*Adresseavisen*, 04.09.2017). Similarly, Hadia Tajik, parliamentarian and deputy leader of the Labour Party, summed up the climate debate of the same election campaign as being “almost exclusively about oil” (*Klassekampen*, 04.10.2017).

In the face of such changes in the way oil and climate is being discussed, Labour and the Conservative party generally continue to defend a clear separation between a climate policy focused on reducing the demand for fossil fuels, on the one hand, and a petroleum policy maximizing the economic benefits of supplying oil and gas, on the other. The current Conservative-led government has made this approach explicit. For example, former Conservative minister of climate and environment Vidar Helgesen frequently asserted that Norway’s role was in ‘reducing demand for its own product’ – for example by incentivizing electric vehicles – while continuing to produce oil to meet existing demand. This view is highlighted as being in line with the international climate regime, which assigns responsibility for greenhouse gas emissions based on where fossil fuels are combusted, not where they are produced. Echoing industry narratives about clean Norwegian oil and gas, the minister of oil and energy has even argued that the industry contributes to reducing global emissions as “Norwegian petroleum activity has on average significantly lower emissions than the world average”, and that “Norwegian gas also provides a fast and cheap way to reduce emissions when replacing coal in Europe” (Søviknes 2017).

On the other side, some of the smaller parties, traditionally more sceptical of the oil and gas industry, have developed platforms that go further in restricting and eventually phasing out petroleum production. This applies to some extent to the Liberal party, who have focused in particular on reforms of the petroleum tax system in order to limit further oil and gas development; and to the Socialist Left party who has taken a position against new exploration licenses. The Green Party won a seat in the *Storting* for the first time in the 2013 election on an explicit platform of phasing out Norwegian oil and gas production, and has continued to argue for a managed phase-out of the industry and an end-date for Norwegian oil production. The latter position is also supported by the (far left) Red party, which won a seat in the *Storting* in 2017.

For the last two decades, governments led by either the Labour or the Conservative party have consistently depended on forming coalitions with the smaller parties to gain a parliamentary majority (Boasson and Lahn 2017). This has resulted in climate and petroleum policy being the subject of negotiations between the leading coalition partner and smaller parties. From 2005 to 2013, Labour formed a majority coalition with the Socialist Left and Centre parties under Prime Minister Jens Stoltenberg. From 2013 onwards, the Conservative party has led a coalition

government with the Progress party that first was a minority government depending on the Christian Democrats and Liberal party for support in the Storting, and later included these parties to form a majority coalition.

This situation of coalition politics has resulted in repeated compromises in which the larger parties have ensured that the basic features of Norwegian petroleum policy are maintained, while the smaller parties have won concessions involving restrictions on oil and gas development in some specific cases. Notably, both Labour and the Conservative/Progress party coalition have for almost 20 years accepted to keep the areas outside Lofoten, Vesterålen and Senja closed for oil and gas activity – a major mobilizing issue for environmental NGOs and main demand from the smaller parties in the Storting – even though the Labour, Conservative and Progress parties in theory could ensure a parliamentary majority for opening the area to licensing.

At the same time, licensing in other parts of the continental shelf has increased, and the current government's position is that awarding new licenses for exploration and production is “the primary way for the authorities to provide incentives” for a “continued high level of value creation” in the oil and gas industry (Søviknes 2017). In this way, keeping specific areas free from oil production has functioned as a bargaining chip that has allowed other elements of Norwegian petroleum policy to remain largely unaffected by the demands from the smaller coalition parties.

A similar pattern can be seen in discussions about the petroleum tax system and the potential economic risk of expanding oil and gas production: Whereas the smaller political parties, and in particular the Liberal party, have raised concerns about the tax system encouraging too much investment in the oil sector, the larger parties have ensured continuity in the current system while accepting more limited initiatives to study or mitigate economic risk.

As an example, following the adoption of the Paris Agreement in 2015, the Liberal Party proposed to establish a commission to review the Norwegian petroleum tax regime in light of the global temperature targets agreed in Paris (Innst. 2 S, 2016-2017). In a compromise between the Liberal Party and the then-minority Conservative/Progress party coalition, it was decided that the government should present to the Storting an explicit discussion of the implications of the temperature targets in the Paris Agreement for Norwegian petroleum policy. A broad alliance across the political spectrum thus affirmed the economic risks associated with international climate targets as having real implications for petroleum resource management, although the government parties, supported by Labour, resisted drawing a direct link to the existing tax regime. The minister of petroleum and energy later summed up the government's view:

*There is no reason to believe that the market is not capable of taking into account the full scope of risks relevant to any given sector. That includes any potential risk and reward related to a more ambitious policy to fight climate change. As good and dedicated as Norwegian civil servants are, I do not think they – or me - are better at making these kinds of decisions than the companies themselves. Nor, for that matter, are Members of Parliament, environmental activists or commentators in the press.*  
(Søviknes 2017)

In general, however it seems that the economic risk associated with future oil and gas production is becoming somewhat more recognized as a concern even among the larger political parties. In the Parliamentary election of 2017, the Conservative Party ran on a platform that suggested establishing “climate risk testing” of new oil developments. This has been followed up, among other things, by a commission on climate risk and a decision to develop scenarios for future oil prices in line with the Paris Agreement goals (further described in section 4.3).

Of particular interest is the increasing level of debate within the Labour party. For the last few years, the party leadership has been struggling to strike a balance between its youth wing on the one



hand, which supports ending licensing and establishing a deadline for phasing out Norwegian oil and gas production, and its strong membership base in industry unions on the other. The same split is to some extent apparent within the main labour union confederation of Norway (LO), where some of the larger public and service sector unions have adopted restrictive positions on oil and gas development, whereas industry unions strongly favour expansion of oil and gas activity into new areas (Budalen 2016).

There are several recent examples of how this tension plays out: In 2017, the Labour party's financial spokesperson, Marianne Marthinsen, suggested that changes might be needed in the petroleum tax system to reduce the government's exposure to climate risk (*Dagsavisen*, 22.08.2017), and in 2019 energy spokesperson Espen Barth Eide made similar remarks. In both cases, their statements drew heavy criticism from industry representatives, prompting party leadership to categorically rule out any changes to the petroleum tax system on climate grounds. Later in 2019, however, the youth wing of the party and local party chapters in Northern Norway won a surprise victory when they succeeded in changing the Labour party's position regarding oil exploration in Lofoten, Vesterålen and Senja (Ask and Ruud 2019).

Because of the parliamentary situation described above, where the larger political parties depend on compromises with the smaller, more climate-oriented parties to form a government coalition, changes in the Labour party's position on oil and gas development are likely to have a particularly strong effect. This is clearly seen in the case of Lofoten: With the Labour party as of 2019 opposing oil activity in this area, there is no longer a theoretical majority for opening the area for licensing, which renders the issue effectively dead in Norwegian politics. This is probably why industry and labour union reactions to Labour's position change were particularly strong, with several industry actors worrying that by taking "the Lofoten question" off the table, the Labour party was opening the door to more radical demands for restrictions on the oil industry from its junior partners in a future government coalition (Oterholm and Gjerstad 2019).

### 3.3 Public opinion

Environmental concern and support for climate policy is generally relatively high in the Norwegian population, albeit not as high as the record levels measured in the late 1980s and early 1990s (IPSOS Norsk Monitor 2018; Boasson and Lahn 2017). At the same time, there is broad recognition in the population of the importance of oil and gas production for the Norwegian economy, and polls indicate high levels of support for the industry on a general level (NOROG 2019). How this support translates into public opinion on more specific issues of oil and gas policy is however less clear. For example, one poll shows that a majority of the Norwegian population supports continued exploration for oil and gas, while one in three supports ending further exploration altogether (Gullestad 2019). Another poll indicates that the public is almost evenly split in the question of whether some unspecified amount of oil and gas resources should be left undeveloped in order to help mitigate climate change, with a slight majority favoring the "keep it in the ground" argument (Kristiansen 2017). When it comes to the question that has been the subject of the most intense political debate in recent years, of whether to open the sea areas outside Lofoten, Vesterålen and Senja for licensing and exploration, a number of polls show a clear majority against allowing oil and gas activity in these areas (e.g. Rødeseike 2017).

A pattern across much available polling data seems to be that support for oil and gas activity is higher in the Western and Southern parts of Norway, where most current oil-related industry and employment is concentrated; while skepticism is higher in Oslo as well as in fisheries-dependent Northern Norway (Kristiansen 2017; NOROG 2019). A restrictive attitude towards oil and gas development is also somewhat more prevalent among younger people (Rødeseike 2017), where

climate change concern in general is higher than in the rest of the population.<sup>1</sup> During the wave of “school strikes for climate” across many countries in the spring of 2019 (Fisher 2019), Norwegian students and youth groups mobilized large numbers of protesters in all parts of Norway around demands to stop further oil and gas exploration. While it is not clear how representative such demands are for young people in general, they once again highlight the extent to which the future of the Norwegian oil and gas industry has become inextricably linked with climate policy discussions in recent years.



Slogan against new oil licenses seen during a “school strike for climate” protest, Oslo, March 2019.  
Photo: Thomas Mordal/Young Friends of the Earth Norway (CC BY).

<sup>1</sup> See, for example, the CICERO Climate Survey, available at [http://cicero.oslo.no/file/1246/frokostseminar%20ACT%2010%2001%2019\\_final\\_2.pdf/download](http://cicero.oslo.no/file/1246/frokostseminar%20ACT%2010%2001%2019_final_2.pdf/download)



## 4 Policy change: Status and proposals under discussion

This chapter provides an overview of Norwegian petroleum policy and the most important climate-related changes that have been adopted or proposed over the last decade. It focuses primarily on the licensing system and the petroleum tax system as the two policy areas that predominantly determine future investment and production levels. Measures to limit economic risks related to climate change and the regulation of the oil industry's production-related greenhouse gas emissions are also addressed.

### 4.1 Licensing and exploration

The first step towards exploration and development is the opening of a larger sea area for licensing. This is done by Parliament following an impact assessment carried out by the MPE. Currently, most of the NCS is open for licensing, with the exception of the areas off Lofoten, Vesterålen and Senja in Northern Norway, the Northern part of the Barents Sea and the area surrounding Svalbard, and some other coastal and ecologically sensitive areas (see Figure 4-1).

After a sea area is opened for licensing by Parliament, the MPE awards new licenses for petroleum exploration through two separate processes: In numbered licensing rounds, acreage is awarded in new and relatively undeveloped "frontier" parts of the NCS. These rounds are usually conducted every other year on the initiative of the MPE, through a process in which industry first nominates prospective areas for licensing, and are then invited to apply for areas defined by the MPE (NPD 2019). The other process is the annual Awards in Predefined Areas (APA) licensing rounds, where industry may apply for licenses in predefined parts of the NCS – so-called "mature" areas with more well-known geology and proximity to existing production infrastructure.

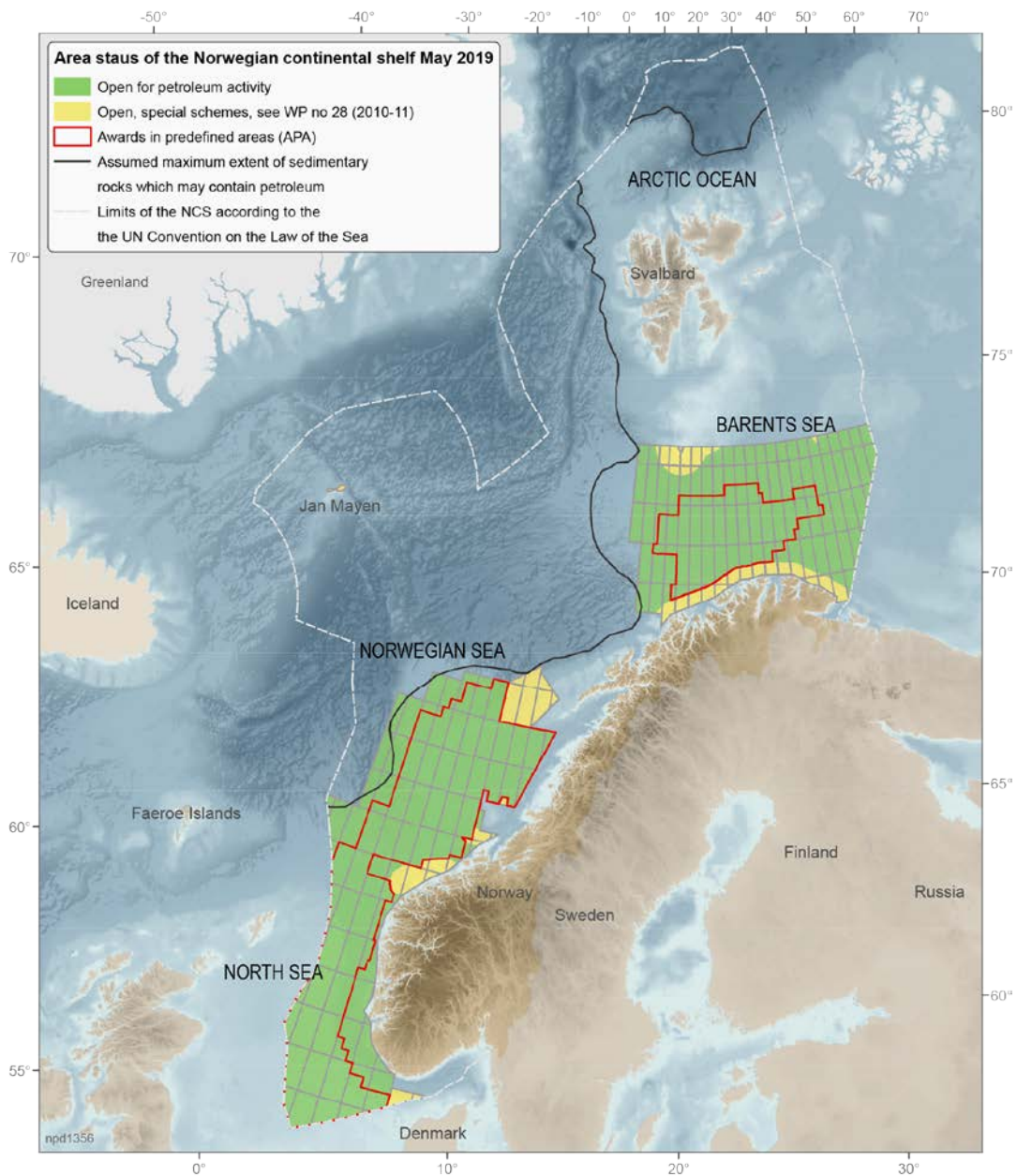


Figure 4-1 Map of licensing areas on the Norwegian Continental Shelf (NPD 2019). The Lofoten, Vesterålen and Senja area currently not opened for oil and gas activity can be seen between the green areas in the Norwegian Sea and the Barents Sea.

The introduction of the APA system in 2003 has led to a rapid increase in the total volume of awarded licenses, as illustrated in Figure 4-2. The increase can be interpreted partly as a continuation of a longer trend in which the MPE and NPD has sought to encourage exploration in mature areas of the NCS in order to recover the remaining resources in these areas; and partly as a response to the 2013 oil price drop, to maintain a high level of industry activity during the downturn of the following years.

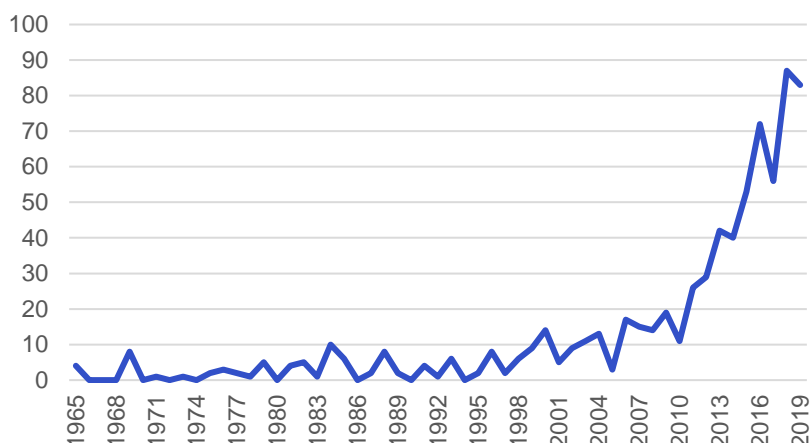


Figure 4-2 Number of licenses awarded annually on the Norwegian Continental Shelf (NPD 2019)

The two most recent “numbered” licensing rounds were initiated in 2013 and 2016: The 23<sup>rd</sup> licensing round was initiated by the Labour-led (center-left) coalition government prior to the Parliamentary election in 2013, resulting in ten licenses being offered to oil and gas companies by the Conservative-led right-wing coalition government in May 2016 (MPE 2016). The 24<sup>th</sup> licensing round was initiated in August 2016 by the Conservative coalition, resulting in 12 licenses being awarded in June 2018.

As described in chapter 3, the opening of new areas for licensing has often been a controversial topic in Norwegian politics, with mobilization from environmental NGOs, the fisheries industry and others against oil activities in specific areas such as the Barents Sea or the areas off Lofoten, Vesterålen and Senja islands in Northern Norway (Kielland 2017; Sæther 2017). Starting from the 23<sup>rd</sup> licensing round, however, such protests were much more explicitly tied to climate change and calls for a “managed decline” of the oil and gas industry as a whole. This is particularly evident in the lawsuit brought against the 23<sup>rd</sup> licensing round by the NGOs Greenpeace and Nature and Youth, arguing that the failure to consider the climate impacts of further licensing was a violation of the Norwegian constitution (see separate text box).

In response to such protests, the Green Party introduced a bill in the Storting in 2014 to stop the 23<sup>rd</sup> licensing round. The proposal was supported by the Socialist Left Party (SV), but it failed to gain wider support – even among other smaller parties traditionally aligned with the environmental movement, such as the Liberal Party (Innst. 206 S, 2013-2014). The larger political parties, as well as the MPE, emphasized the importance of continuity and stability in Norwegian petroleum resource management. They see awarding new licenses for exploration and production as “the primary way for the authorities to provide incentives” for a “continued high level of value creation” in the oil and gas industry (Søviknes 2017).

A move towards emphasizing potential climate consequences of licensing is also found among some government agencies. The NEA and the Institute for Marine Research (IMR, a scientific institution advising the government on marine policy) have often clashed with the MPE regarding licensing in specific areas of particular ecological value. In the 24<sup>th</sup> licensing round, the NEA for the first time also argued for caution in further licensing for climate policy reasons. In their official statement submitted during the government consultation process, they highlighted the economic risk of expanding oil production in the Barents Sea in a situation where fossil fuel reserves will have to be left undeveloped and thus may become “stranded assets”. In the APA 2019 round, they were joined



by the IMR, who pointed to the findings of the IPCC (2018) that oil and gas consumption will have to be significantly reduced in order to keep global temperature rise below 1.5°C.<sup>2</sup> These attempts to question the effects of overall licensing policy on climate change have so far not found backing in the MCE or other higher government levels. So far, Norway's licensing policy therefore remains unchanged despite some calls to reconsider it in light of climate policy targets.

The question of whether to open the areas off Lofoten, Vesterålen and Senja for licensing has consistently been among the most heated controversies in Norwegian politics over the last ten years, with successive government coalitions negotiating compromises that have temporarily kept the area closed and postponed any decision on future oil and gas activity in the area. As described in chapter 3, however, the Labour party in 2019 reversed its position to start the process towards licensing in the area, meaning that the parliamentary majority now opposes oil and gas exploration here. The issue therefore now seems settled for the foreseeable future.

While the debate over Lofoten in general, and Labour's new position in particular, is largely motivated by concerns other than climate change, the change in position is considered by some as a signal that the oil industry has lost some of its political influence, at least in its former stronghold of the Labour party and labour union movement (e.g. Oterholm and Gjerstad 2019). Thus, the debate over Lofoten can be seen as an indication of future challenges towards the oil industry, although this has not yet affected overall licensing policy.

### The constitutional lawsuit against Arctic oil

Among the most high-profile recent initiatives to protest further oil and gas licensing in Norway was the lawsuit brought by the environmental NGOs Greenpeace and "Nature and Youth" (Young Friends of the Earth Norway) in September 2016. The NGOs asked the court to invalidate the licenses through the 23<sup>rd</sup> licensing round, on the grounds that the expansion of oil production in these sea areas violates the Norwegian constitution.

Article 112 of the Norwegian constitution grants citizens the right to a healthy environment. The article has never been tried in court before, and the Norwegian court system rarely hears cases based on general constitutional rights.

In their suit, Greenpeace and Nature and Youth cited the limited global "carbon budget" and the risks that increasing reserves of "unburnable oil" poses for Earth's climate in order to argue that the constitutional right was violated by further licensing. Additionally, the NGOs pointed to the ecological sensitivities of the particular areas that had been licensed, and what they claimed was insufficient consideration of social and environmental consequences.

The case was tried before Oslo District Court in the fall of 2017, with the court ruling in favour of the government to uphold the licenses in January 2018. An appeal will be considered in November 2019.

<sup>2</sup> Letter from NEA to MPE, 26 April 2017, on 24<sup>th</sup> licensing round. Letter from NEA to MPE, 24 April 2019, on APA 2019. Letter from IMR to MPE, 30 April 2019, on APA 2019.



## 4.2 The tax system

Next to licensing policy, the main determinant of long-term activity levels in the Norwegian oil and gas industry is the petroleum tax system. Norway levies a tax of 78% on incomes from petroleum production, through a “Special Petroleum Tax” levied on top of the general Corporate Income Tax (CIT) (Lund 2014). The high tax rate has enabled the government to capture a large share of the benefits from oil and gas production for the Norwegian public, as described in chapter 2. At the same time, the tax system also means that the government assumes a large share of the risk associated with new developments. Investments in exploration and development are fully deductible, and companies without taxable income can have their deductible exploration costs refunded (NPD 2019). This has led to discussions about whether the tax system should be adjusted in order to take potential climate risk into account.

The Ministry of Finance (MOF) explicitly recognizes several features of the petroleum tax system to be “investment friendly” or “too generous”, encouraging development and production beyond what would follow from the ideal of a “neutral” tax regime (MOF 2018b). The MOF estimates the “tax expenditure” (foregone tax revenue) associated with investment-based deductions to have been between USD 1,1 bn and 2,3 bn annually over the last five years (MOF 2018b:134–35, and previous national budgets). While some analysts have categorized these tax breaks as subsidies (e.g. Aarsnes and Lindgren 2012), the ministry argues that they do not constitute fossil fuel support as defined by the OECD (2019).

Table 4-1 Public expenditure for Norwegian oil and gas production. “Tax expenditure” follows the estimate by MOF (2018 and previous national budgets) of the amount of tax revenue that is foregone because of what the Ministry defines as “too generous” deduction rates. Budgetary support as reported to the OECD (2019).

<b>Public expenditure for Norwegian oil and gas production</b>					
(All figures in Million NOK)	2014	2015	2016	2017	2018
<b>Estimated tax expenditure in the petroleum tax system</b>					
Fast depreciation rates (CIT)	2 400	2 100	1 800	1 340	1 560
Uplift and deductions (SPT)	17 900	14 600	12 600	7 635	9 155
<u>Total tax expenditures</u>	<u>20 300</u>	<u>16 700</u>	<u>14 400</u>	<u>8 975</u>	<u>10 715</u>
<b>Budgetary support</b>					
NPD geological surveys	269	178	200	44	
Petroleum R&D funding	532	620	751	676	
<u>Total budgetary support</u>	<u>800</u>	<u>798</u>	<u>951</u>	<u>719</u>	

A number of Norwegian economists have argued that reducing future oil and gas production from marginally profitable fields might be a cost-efficient way for Norway to reduce global greenhouse gas emissions (Fæhn et al. 2017). Changes in the petroleum tax system, either through the introduction of a new production tax or through adjusting the “investment friendly” elements of the existing system, has been highlighted as one way of achieving this (Erickson and Down 2017; Jortveit 2016).

Political debates have had a particular focus on the reimbursement system for exploration costs, in which companies without taxable income are eligible for “an immediate refund of the tax value of exploration costs” (NPD 2019). The scheme was introduced in 2005 as a measure to encourage exploration, and to attract new industry actors to the NCS – contributing to a “level playing field” between established actors and newcomers without taxable income. With regard to impact on future production volumes, however, other aspects of the tax system are likely more important. One analysis suggests that most new resources on the NCS will depend on existing fast depreciation and uplift rates for profitability, in particular in the Barents Sea (Erickson and Down 2017).

Environmental NGOs have called for the petroleum tax system to be revised as one approach to limiting future oil and gas production. Some political parties have also supported calls to discontinue the reimbursement system for exploration costs, or to consider other changes in the petroleum tax system. Before joining the Conservative-led government coalition in 2018, the Liberal Party was a particularly vocal supporter of petroleum tax reform as a way of encouraging a market-led transition away from oil and gas. Following the adoption of the Paris Agreement in 2015, the Liberal Party proposed to establish a commission to review the Norwegian petroleum tax regime in light of the global temperature targets agreed in Paris (Innst. 2 S, 2016-2017). The proposal however failed to gain support from the larger political parties.

The petroleum tax system is a politically highly sensitive topic, both because of the direct impact changes (or even speculations about changes) might have on near-term investment and employment, and because of the importance of the SPT for government revenue. This is clearly illustrated by recent attempts to open up a discussion about the topic within the Labour party, as mentioned in section 3.2.

### 4.3 Initiatives to address economic risk

While proposals to revise the tax system have so far gained little support in policy circles, the broader debate about economic risks associated with future oil and gas activity has resulted in several new processes of policy development. In 2015, the government appointed a “Commission on green competitiveness” in order to propose a strategy to increase the competitiveness of the Norwegian economy in light of a stricter future climate policy. The commission consisted of former EU climate commissioner Connie Hedegaard and the director of the Norwegian financial industry organization, Idar Kreutzer. The commission pointed out that “a stricter climate regime changes the risks concerning petroleum activities” and suggested that the government should “consider the need for changes in the current petroleum regime” (Hedegaard and Kreutzer 2016:6).

Following up on the commission’s recommendations, the MCE coordinated the development of a government-wide “strategy on green competitiveness” which was launched in 2017. This led to the establishment of yet another commission, tasked with assessing climate risks for the Norwegian economy more broadly (MOF 2018a).

The commission on climate risk was given a mandate that explicitly excluded any consideration of changes in oil policy and tax regime (MOF 2018a:12). The commission’s report, published in December 2018, was therefore rather limited in its discussion of the oil industry. Nevertheless, the

report pointed out that a central challenge for Norway is to transition to an economy that is less reliant on the oil and gas sector for growth (MOF 2018a:120). It recommended that the government should “establish, maintain and publish a set of scenarios for oil prices, gas prices and CO<sub>2</sub> prices, including a scenario reflecting the ambitions under the Paris Agreement” which can be used for “stress testing” the climate risk of new oil developments (MOF 2018a).

In 2019, the MOF confirmed that it will follow up the recommendation to establish a set of scenarios against which new oil and gas activity can be assessed (MOF 2019:62). The ministry has so far not released any details as to how the scenarios will be developed, or their practical application in decision-making.

In parallel to discussions about the risk of investments in the Norwegian oil and gas industry becoming “stranded assets” as a result of future climate policy, there have also been debate about the investment of oil revenue through the Norwegian sovereign wealth fund, the Government Pension Fund Global (GPFG). Environmental NGOs have been campaigning for the fund to divest from fossil fuels and actively invest in renewables. In 2018, the financial manager of the GPFG recommended that the fund should divest from oil and gas activities as a measure to reduce the total exposure of the Norwegian economy to the risk of low oil prices. As a follow-up of this, the government in 2019 announced a limited divestment from parts of the oil and gas industry (see separate text box for details). The ministry stressed that the decision was not motivated by climate policy, but should be seen as a financial decision to make Norway less vulnerable to future oil price fluctuations.

### **GPFG divestment from coal and upstream oil activities**

Since the 1990s, petroleum tax revenue has been invested in Norway’s sovereign wealth fund, known as the “Government Pension Fund - Global” (GPFG). The fund currently has more than one trillion USD invested in a broad range of industries worldwide.

The fund is guided by a set of ethical guidelines and a government-appointed Council on Ethics, which precludes investment in certain industries such as tobacco and certain types of weapons, as well as in companies that engage in human rights violations or grave environmental damage.

Following a decision in parliament in 2015, the fund also excluded coal energy companies from its portfolio, on the grounds that it was not compatible with global climate goals.

In March 2019, the Ministry of Finance announced the intention to divest the fund from “upstream energy industry activities”, i.e. oil and gas exploration and production. Unlike the coal divestment decision, this was not justified on climate grounds, but adopted as a measure to reduce the total exposure to oil price risk in the Norwegian economy (Meld St 14 2018-2019).

The government decided to divest the Fund from upstream oil and gas companies, defined as companies categorized as “Non-renewable Exploration & Production” companies in the FTSE Russell index. This means that integrated oil companies which include downstream activities, such as Exxon and Shell, may remain in the Fund’s portfolio for the time being.

The policy applies only to investments made globally through the GPFG, and has no implications for investments and tax regime in the Norwegian petroleum industry.

## 4.4 Production-related emissions

The main change in climate policy debates discussed in this report has been about the place of Norwegian oil and gas in the global context, and so discussions have tended to focus mostly on future production levels and emissions embedded in exported oil. However, as the oil industry accounts for around ¼ of Norway's greenhouse gas emissions, production-related emissions have also been an important part of climate policy discussions.

As mentioned in chapter 2, a number of measures were introduced to limit production-related emissions from the oil and gas industry already in the 1990s. These included a CO<sub>2</sub> tax on industry emissions and a ban on gas flaring. The measures helped promote efficiency improvements in offshore operations that reduced the emission intensity of the industry, as well as reinjection of CO<sub>2</sub> from the gas stream (CCS) on two gas-producing fields (Sleipner and Snøhvit) (Gavenas, Rosendahl, and Skjerpen 2015b). However, while the production-related emissions per unit of oil and gas on the NCS are still significantly below world average, emissions intensity has been rising since the late 1990s, in large part due to ageing fields with higher energy use.

Since 2008, the oil and gas industry has been part of the EU Emissions Trading Scheme (EU ETS), and has therefore been required to purchase emission allowances within the EU ETS in addition to the CO<sub>2</sub> tax levied on its production-related emissions. Norway is currently in the process of further integrating its climate policy with that of the EU, by aligning its 2030 target under the Paris Agreement with the EU's target and becoming part of its "effort sharing" system which regulates each country's contribution to meeting the 2030 target (Boasson and Lahn 2017; Christensen 2017). This has so far had the effect of creating a stronger divide between the sectors covered by the EU ETS (where emission reductions are assessed primarily at a European level), and the "non-ETS" sectors (where the national government will be responsible for meeting EU-mandated emission reduction targets as part of the effort sharing agreement). Norway's climate policy integration with the EU may therefore to some extent serve to reintroduce the division between climate and petroleum policy of the 1990s, in the sense that it allows Norway to meet its international climate targets independently of how emissions in the oil and gas sector develop.

## 5 Conclusions: Managing decline or managing economic risk?

As shown in the previous chapters, the discussion about Norwegian oil and gas production in a climate-constrained world has intensified over the last decade. Whereas petroleum policy and climate policy was discussed as separate issues in the 1990s and well into the 2000s, the two have now become reconnected in the Norwegian political discourse to the extent that high-ranking political figures complain that questions about the future of oil is overshadowing other climate policy questions. At the same time, however, only marginal changes in Norway's policy vis-à-vis the oil and gas industry can be discerned as a result of this notable discursive shift.

This mismatch between changes in public discourse and the actual practices in Norwegian petroleum policy is strikingly illustrated by last year's re-branding of Statoil, the state-owned oil company and pillar of the "Norwegian model" since the 1970s. By changing its name to "Equinor", Statoil CEO Eldar Sætre announced, the company wanted to signal that it was no longer purely an oil company, and that it was ready to be part of the transition toward a new energy future. At the same time, Sætre underscored that – although the word "oil" apparently was now seen as a liability – the company's primary activity and the overwhelming share of its investments would still be in oil and gas for the foreseeable future (Statoil 2018).

The political majority supporting a continuation of the main aspects of Norwegian petroleum policy build their position on three aspects in particular: First, and perhaps most strongly, the "welfare" aspect of oil – that is, its importance as an unrivalled source of income for the Norwegian government, and of employment and investment for the economy as a whole. Second, the principle that countries are only responsible for their territorial emissions, and that the overall level of oil and gas production and export is not relevant for climate policy. And third, the industry as well as some political actors make the point that Norwegian oil and gas may have net climate benefits, as production-related emissions are below world average and Norwegian gas can help decarbonize the European energy sector.

Against this majority view, a vocal opposition argues that further expansion of Norway's oil and gas industry is incompatible with global climate goals, and that current policies to encourage further exploration and development therefore must be abandoned. Some actors call for a "managed decline" of the industry, for example, by setting an end-date for Norwegian oil and gas production.

While proposals to restrict the oil industry as a whole as a climate mitigation measure are currently not politically feasible, some interesting changes have taken place with regard to the economic risk of future oil and gas activity. The fact that constraints on future greenhouse gas emissions may limit the demand for oil and gas in the coming decades has been accepted as a potential economic risk across the political spectrum. Approaches to the problem of economic risk differ, and the government's general position is that the existing tax system already ensures that the industry is robust towards a range of risks, including those stemming from future climate policy. Nevertheless, some notable initiatives have still been taken to address new economic risks, including the divestment of the GPFG from upstream oil and gas activities and the decision to establish scenarios that enable "stress-testing" new oil and gas development against oil prices in line with Paris Agreement goals.

On one level, these changes indicate that it might be politically easier to accept climate policy as a risk to the Norwegian economy than to accept the oil-dependent Norwegian economy as a risk to the climate system (cf. Asdal 2014). Meeting the climate challenge, in this view, becomes a question of managing one more economic risk alongside many others, while continuing an approach to climate policy largely based on the separation of petroleum and climate policymaking.

At the same time, the realization that stricter climate targets means less demand for oil and gas can also be seen as signalling new questions about the future of Norway's main industry – thus, potentially, pointing towards bigger policy changes ahead. The Labour party's somewhat surprising change of position when it comes to exploration off the Lofoten, Vesterålen and Senja islands in Northern Norway has indeed been taken by some commentators and industry actors as a signal that the political mainstream's strong historical support for the industry cannot necessarily be taken for granted going forward. In this view, the industry is inevitably in decline, and this decline needs to be politically managed if not actively promoted.

Among the most important factors likely to influence how the debate about the future of Norwegian oil and gas proceeds are policy developments in the international arena. EU climate policy will impact directly on Norwegian climate regulation due to increasing policy integration on the topic, but it will also have a major indirect impact on the Norwegian oil and gas industry by determining Europe's demand for natural gas in the decades to come. More generally, the trajectory of international climate policy cooperation will determine the extent to which Norway will be able to reconcile its oil and gas production with its climate leadership ambitions.

The international climate regime has been crucial for enabling Norway to justify continued high levels of oil and gas production, through an institutionalized focus on consumption rather than production of fossil fuels and a system of flexible mechanisms that makes it possible to meet international obligations while increasing domestic emissions. If limiting the supply side of fossil fuels were to become a more established part of the international response to climate change, whether through regulations or norms (Green 2018; Newell and Simms 2019), this will likely increase the pressure on Norway to more fundamentally revise its approach.

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CICERO has garnered attention for its research on the effects of manmade emissions on the climate, society's response to climate change, and the formulation of international agreements. We have played an active role in the IPCC since 1995 and eleven of our scientists contributed the IPCC's Fifth Assessment Report.

- We deliver important contributions to the design of international agreements, most notably under the UNFCCC, on topics such as burden sharing, and on how different climate gases affect the climate and emissions trading.
- We help design effective climate policies and study how different measures should be designed to reach climate goals.
- We house some of the world's foremost researchers in atmospheric chemistry and we are at the forefront in understanding how greenhouse gas emissions alter Earth's temperature.
- We help local communities and municipalities in Norway and abroad adapt to climate change and in making the green transition to a low carbon society.
- We help key stakeholders understand how they can reduce the climate footprint of food production and food waste, and the socioeconomic benefits of reducing deforestation and forest degradation.
- We have long experience in studying effective measures and strategies for sustainable energy production, feasible renewable policies and the power sector in Europe, and how a changing climate affects global energy production.
- We are the world's largest provider of second opinions on green bonds, and help international development banks, municipalities, export organisations and private companies throughout the world make green investments.
- We are an internationally recognised driving force for innovative climate communication, and are in constant dialogue about the responses to climate change with governments, civil society and private companies.

CICERO was founded by Prime Minister Syse in 1990 after initiative from his predecessor, Gro Harlem Brundtland. CICERO's Director is Kristin Halvorsen, former Finance Minister (2005-2009) and Education Minister (2009-2013). Jens Ulltveit-Moe, CEO of the industrial investment company UMOE is the chair of CICERO's Board of Directors. We are located in the Oslo Science Park, adjacent to the campus of the University of Oslo.